

# EXHIBIT A

PUBLIC VERSION

Trials@uspto.gov  
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO. LTD.,  
SAMSUNG ELECTRONICS AMERICA, INC. and APPLE, INC.,  
Petitioner,

v.

NEONODE SMARTPHONE LLC,  
Patent Owner.

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Patent 8,812,993 B2

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Before MICHELLE N. ANKENBRAND, KARA L. SZPONDOWSKI, and  
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

OGDEN, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

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## I. INTRODUCTION

In response to a Petition (Paper 6, “Pet.”) filed by Petitioners Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and Apple Inc. (collectively, “Petitioner”),<sup>1</sup> the Board instituted an *inter partes* review of claims 1–8 of U.S. Patent No. 8,812,993 B2 (Ex. 1001, “the ’993 patent”). Paper 24. Patent Owner Neonode Smartphone LLC (“Neonode”)<sup>2</sup> filed a Patent Owner Response under seal (Paper 29, “PO Resp.”; redacted version as Ex. 1047), Petitioner filed a Reply to the Patent Owner Response (Paper 49, “Pet. Reply”), and Neonode filed a Sur-reply (Ex. 2028, “PO Sur-reply”; public redacted version as Paper 55).

We held an oral hearing on March 17, 2022, and the transcript is entered on the record. Paper 67 (“Tr.”).

This is a final written decision under 35 U.S.C. § 318(a) as to whether the claims challenged in the *inter partes* review are unpatentable. For the reasons below, we conclude that Petitioner has shown that all the challenged claims are unpatentable on at least one ground of the Petition.

We also deny Petitioner’s Motion to Exclude Evidence (Paper 60; Neonode’s Opposition filed as Paper 61; Petitioner’s Reply filed as Paper 62), we grant Neonode’s unopposed Motion to Submit Supplemental Information (Paper 63; Petitioner’s Opposition filed as Paper 66), and we grant Neonode’s unopposed Motion to Seal (Paper 65).

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<sup>1</sup> The Petition identifies the named Petitioners as the real parties in interest. Pet. 93.

<sup>2</sup> Neonode identifies itself as the real party in interest. Paper 7, 2.

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## II. BACKGROUND

### A. RELATED PROCEEDINGS

The parties identify the following as related matters: *Neonode Smartphone LLC v. Apple Inc.*, No. 6:20-cv-00505 (W.D. Tex. filed June 8, 2020); and *Neonode Smartphone LLC v. Samsung Electronics Co. Ltd.*, No. 6:20-cv-00507 (W.D. Tex. filed June 8, 2020). Pet. 93–94; Paper 7, 2.

### B. THE '993 PATENT (EX. 1001)

The '993 patent relates to a user interface on a device that has a touch-sensitive display screen. *See* Ex. 1001, 1:14–17, code (57). Figure 1 of the '993 patent, reproduced below, illustrates such a user interface:

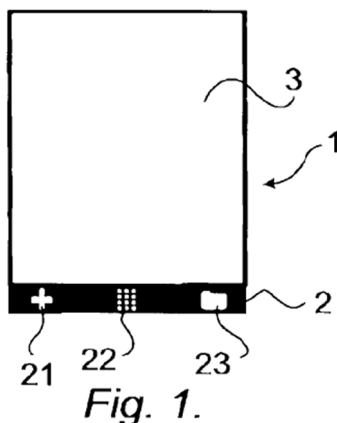


Figure 1 depicts a touch-sensitive area (1) on a mobile handheld device. Ex. 1001, 3:30–31, 3:57–60. It is divided into a menu area (2) and a display area (3). *Id.* at 3:60–61. Menu area 2 is a narrow strip along the lower part of touch-sensitive area 1 that contains predefined functions 21 (a general application-dependent function), 22 (a keyboard), and 23 (a task and file manager). *Id.* at 4:9–14.

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Figure 2, reproduced below, shows how to activate the functions in menu area 2:

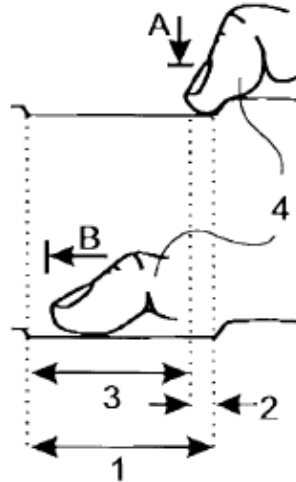


Fig. 2.

Figure 2 of the '993 patent, above, illustrates a touch gesture by which a user may activate functions 21, 22, or 23 in area 2. *See* Ex. 1001, 4:15–19. This gesture begins when object 4 (in this case a finger) touches the display at point A within representation 21, 22, or 23, and moves in direction B away from menu area 2 into display area 3. *Id.*

Figure 3, reproduced below, illustrates the touch screen after function 21 has been activated:

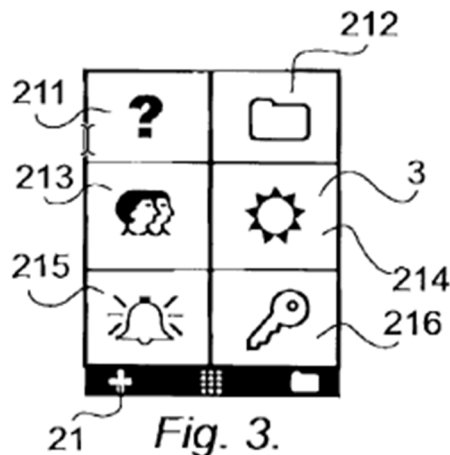


Fig. 3.

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Ex. 1001, 3:33. Figure 3, above, shows that after a user activates function 21 with the gesture as illustrated in Figure 2, display area 3 displays icons 211–216, which each represent services or functions depending on the currently active application. *Id.* at 4:20–23. If there is no currently active application, the icons may “represent services or settings of the operations system of the computer unit, such as background picture, clock alarm 215, users 213, help 211, etc.” *Id.* at 4:36–40. Analogously, selecting function 22 activates a keyboard, and selecting function 23 activates a library of available applications and files on the device. *Id.* at 4:43–45, 5:3–5, Figs. 5–6.

Figure 4, reproduced below, illustrates how a user selects one of icons 211–216 in Figure 3:

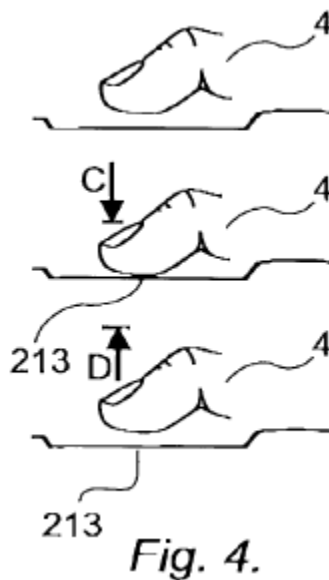


Figure 4, above, is a schematic illustration showing object 4 (a finger) selecting function 213 by “tapping C, D on corresponding icon 213.” Ex. 1001, 4:41–42.

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C. CHALLENGED CLAIMS AND GROUNDS

Sole independent claim 1, which exemplifies the other challenged claims, is as follows:

- [1.pre] 1. A non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen, cause the processor to enable a user interface of the device,
- [1.a] the user interface comprising at least two states, namely,
- [1.b] (a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated system functions are present, each system function being activated in response to a tap on its respective icon, and
- [1.c] (b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising
- [1.d] (i) an object touching the display screen within the strip, and  
(ii) the object gliding on the display screen away from and out of the strip.

Ex. 1001, 6:50–65 (formatting and reference letters added). Claims 2–8, which Petitioner also challenges, depend directly from claim 1. *See id.* at 6:66–7:21.

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Petitioner argues eight grounds (1A–D and 2A–D) of unpatentability, as summarized in the following table:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1A	1–3, 7, 8	103(a) <sup>3</sup>	Hisatomi, <sup>4</sup> Ren <sup>5</sup>
1B	4	103(a)	Hisatomi, Ren, Allard-656 <sup>6</sup>
1C	5	103(a)	Hisatomi, Ren, Tanaka <sup>7</sup>
1D	6	103(a)	Hisatomi, Ren, Kodama <sup>8</sup>
2A	1–3, 7, 8	103(a)	Hansen, <sup>9</sup> Gillespie <sup>10</sup>
2B	4	103(a)	Hansen, Gillespie, Allard-656
2C	5	103(a)	Hansen, Gillespie, Tanaka
2D	6	103(a)	Hansen, Gillespie, Kodama

Pet. 1–2.

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<sup>3</sup> 35 U.S.C. § 103(a) (2006), *amended by Leahy–Smith America Invents Act*, Pub. L. No. 112-29 § 103, sec. (n)(1), 125 Stat. 284, 287, 293 (2011) (effective Mar. 16, 2013). The '993 patent issued from an application filed on December 4, 2011, which is before the effective date of this amendment to section 103. *See* Ex. 1001, code (22).

<sup>4</sup> Hisatomi et al., JP 2002-55750A, published Feb. 20, 2002 (Ex. 1005, including certified translation).

<sup>5</sup> Xiangshi Ren & Shinji Moriya, Rodkin, *Improving Selection Performance on Pen-Based Systems: A Study of Pen-Based Interaction for Selection Tasks*, 7 ACM Transactions on Computer-Human Interaction, Sept. 2000, at 384 (Ex. 1006).

<sup>6</sup> Allard et al., US 5,422,656, issued June 6, 1995 (Ex. 1007).

<sup>7</sup> Tanaka, US 5,249,296, issued Sept. 28, 1993 (Ex. 1008).

<sup>8</sup> Kodama et al., US 6,710,791 B1, issued Mar. 23, 2004 (Ex. 1016).

<sup>9</sup> Hansen, US 5,821,930, issued Oct. 13, 1998 (Ex. 1029).

<sup>10</sup> Gillespie et al., US 2005/0024341 A1, filed Apr. 17, 2002, based on a provisional application filed May 16, 2001, published Feb. 3, 2005 (Ex. 1030).



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#### D. DECLARATORY TESTIMONY

Petitioner presents two declarations of Dr. Benjamin B. Bederson as expert testimony. Exs. 1002, 1051; *see also* Ex. 1004 (curriculum vitae). Petitioner also relies on a declaration of Jacob Robert Munford as to Ren's public availability. *See* Ex. 1031.

Neonode presents a declaration of Dr. Craig Rosenberg as expert testimony. Ex. 2013; *see also* Ex. 2002 (curriculum vitae). Neonode also submits declarations of Per Bystedt (Ex. 2015), Marcus Bäcklund (Ex. 2016),<sup>11</sup> Joseph Shain (Ex. 2019), and Ulf Mårtensson (Ex. 2022) relating to alleged objective indicia of non-obviousness and the early development of products that, according to Neonode, embody the challenged claims. *See* PO Resp. 1, 13–17, 63–67.

### III. GROUNDS OF THE PETITION

For the reasons below, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–8 of the '993 patent are unpatentable under the grounds based on the combination of Hisatomi and Ren (for claims 1–3, 7, and 8), as well as Allard-656 (for claim 4), Tanaka (for claim 5) and Kodama (for claim 6). We do not reach Petitioner's grounds relying on Hansen and Gillespie. Before analyzing these grounds in detail, we address two matters that will underlie our analysis: the level of ordinary skill in the art and the construction we will apply to the claim terms.

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<sup>11</sup> Petitioner moves to exclude certain portions of Exhibits 2015 and 2016 (Paper 60), but we deny this motion as we discuss below in Section IV.

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A. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the pertinent art at the time of the invention is a factor in how we construe patent claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). It is also one of the factors we consider when determining whether a patent claim is obvious over the prior art. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

To assess the level of ordinary skill, we construct a hypothetical “person of ordinary skill in the art,” from whose vantage point we assess obviousness and claim interpretation. *See In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). This legal construct “presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan.” *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

For Petitioner, Dr. Bederson testifies that a person of ordinary skill “would have had at least a bachelor’s degree in computer science, computer engineering, or the equivalent education and at least two years of experience in user-interface design and development. Additional years of experience could substitute for formal education, and vice versa.” Ex. 1002 ¶ 51; Pet. 17 n.3 (citing this definition).

Testifying for Neonode, Dr. Rosenberg states that for his declaration, he “will apply the same definition of the level of skill of a [person of ordinary skill in the art]” as Dr. Bederson. Ex. 2013 ¶ 34.

We find Dr. Bederson’s uncontested articulation to be reasonable in light of the subject matter involved in the ’993 patent. Thus, we adopt it for our decision.

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## B. CLAIM CONSTRUCTION

In an *inter partes* review, we construe a patent claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2021). This generally includes “construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313, 1321. There are only two circumstances in which a construction departs from the ordinary and customary meaning: “1) when a patentee sets out a definition and acts as [their] own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Any such special meaning of a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998).

To construe the claim terms, “we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006).

Petitioner does not propose any explicit claim constructions in the Petition. *See* Pet. 8. Neonode, however, urges us to construe the following terms: (1) *an electronic device*, (2) *tap-activatable*, and (3) *system function*.

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See PO Resp. 5–13. We address the parties’ arguments as to these terms below.

1. “*an electronic device*”

Neonode contends that we should construe the preamble term *an electronic device* to mean “a mobile handheld computer,” and that the preamble is limiting because it provides antecedent bases for “the device,” “the user interface,” and “the display screen” referenced in the body of the claim. PO Resp. 5 (emphasis omitted) (citing *Pacing Techs., LLC v. Garmin Int’l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015)).

Petitioner does not contest Neonode’s argument that the preamble of claim 1 is limiting. See Pet. Reply 1–2. But according to Petitioner, a person of ordinary skill in the art would not have understood the term *an electronic device* to mean “a mobile handheld computer” because “claim 1 was amended during prosecution to *remove* the reference to ‘mobile handheld device’ in favor of ‘electronic device.’” *Id.* at 1 (citing Ex. 1003, 403).

The parties’ arguments as to the meaning of *an electronic device* relate solely to Grounds 2A–D of the Petition, and we do not reach these grounds in our decision. See *infra* Section III.D; see also PO Resp. 45–52; Pet. Reply 18–19; PO Sur-reply 17–18. Thus, we need not construe this term to resolve the contested issues in this case. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘. . . to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

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2. “*tap-activatable*”

Neonode argues that we should construe the term *tap-activatable* to mean “activatable upon completion of a gesture that involves the input device touching a screen followed directly and immediately by lifting off the screen.” PO Resp. 8 (emphasis omitted). In support of this construction, Neonode points to Figure 4 of the ’993 patent reproduced above (*supra* part II.B) and an associated statement in the patent that this figure “shows that selection of a preferred service or setting is done by tapping C, D on a corresponding icon 213.” *Id.* at 8 (quoting Ex. 1001, 4:41–42).

Citing testimony of Dr. Rosenberg, Neonode argues that a person of ordinary skill in the art would have understood that a “tap,” in this context, “means a gesture in which the input device (1) touches the screen, and then (2) lifts directly and immediately off the screen,” which is different from a “touch activation, in which processing is activated upon detecting the coordinates of the initial touch.” PO Resp. 8–9 (citing Ex. 2013 ¶¶ 44–48). Neonode distinguishes tap activation from “touch” activation, which also includes both a touch and a release, but “processing of the desired function is triggered by the coordinates of the initial touch in the touch-activation—the eventual lifting off or releasing is immaterial to the processing.” *See id.* at 17–18 (emphasis omitted) (citing Ex. 2013 ¶¶ 64–71).

In its Reply, Petitioner contends that the term “tap-activatable” has its ordinary and customary meaning, and that nothing in the ’993 patent defines when, during the gesture shown in Figure 4, the selection occurs. Pet. Reply 2 (citing Ex. 1051 ¶ 23). Petitioner also argues that “the ordinary meaning of ‘tap’ does not require the ‘directly and immediately’ temporal aspect of Neonode’s construction, nor does the specification disclose it.” *Id.* at 3

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(citing Ex. 1051 ¶¶ 24–25). Finally, Petitioner argues that we should disregard Dr. Rosenberg’s testimony on this issue because it is not properly supported. *Id.* (citing Ex. 2013 ¶¶ 44–48).

We agree with Neonode that in the context of the ’993 patent, a “tap” is a single gesture that involves both touching a screen and lifting off the screen from approximately the same location, as shown in Figure 4, and that the activation does not occur until the user lifts off the screen. The specification supports this interpretation because in describing the tapping gesture, the ’993 patent refers both to steps C (the touch) and D (the release from the same location) in Figure 4 and a similar touch and release illustrated in Figure 7.<sup>12</sup> *See* Ex. 1001, 4:41–42, 5:14–15. As to whether a tap involves lifting from approximately the same location as the touch, we note that claim 1 distinguishes a “tap” gesture from another gesture relating to an “otherwise-activatable graphic” (i.e., a graphic activatable otherwise than by a tap) that comprises “touching the display” at one location and “gliding on the display screen away from” the touch location. *Id.* at 6:59, 6:63–65; *see also id.* at Fig. 2 (showing such a gliding gesture). Thus, the plain language of claim 1 distinguishes a tap from a gesture that involves sliding to a different location after the initial touch.

We find no evidence of record to support Dr. Rosenberg’s opinion that the user must lift off the screen “immediately” after the touch. *See* Ex. 2013 ¶¶ 44–48. But we do find persuasive his testimony that the tap activation occurs only after the lifting part of the gesture. *See id.* ¶ 45. Otherwise, the

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<sup>12</sup> In the context of Figure 7, the “tap” gesture takes place after (E) moving a finger or other object 4 to highlight a menu item within a task and file manager and then (F) releasing. *See* Ex. 1001, 5:3–35, Figs. 6, 7.

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lifting part of the gesture would be irrelevant to the activation. Dr. Bederson's testimony for Petitioner also supports this view. Ex. 2018, 61:12–14 (“[A tap] corresponds to a ‘mouse up’ event following a ‘mouse down’ event.”)

The evidence also supports Dr. Rosenberg's opinion that the lifting part of the gesture takes place directly or almost directly from the location of the touch, as shown in Figures 4 and 7. *See id.* Dr. Bederson's testimony for Petitioner supports this view. *See* Ex. 1002 ¶ 133 (testifying that at the relevant time, “the tap meant pressing the screen (with an object such as a finger or stylus) and releasing it in the same or almost the same position.”); Ex. 2018, 61:6–8 (“‘[T]ap’ in [the relevant] context meant pressing the screen and releasing it in the same or about the same position.”).

We note that, on cross-examination, counsel for Petitioner asked Dr. Rosenberg about particular gesture described in Ren called “ $a \rightarrow b \rightarrow c \rightarrow a$ .” *See* Ex. 1052, 83:19–20. As we discuss below (*supra* Section III.C.2), this gesture involves a pen touching a screen outside of a target ( $a \rightarrow b$ ), sliding onto the target ( $b \rightarrow c$ ), and then lifting off the target ( $c \rightarrow a$ ). *See* Ex. 1006, 7–8 & Fig. 3. In response to the question, Dr. Rosenberg testified that he would consider the “ $a \rightarrow b \rightarrow c \rightarrow a$ ” gesture to be a “tap” because “what’s important is was the stylus or finger or mouse cursor on the target at the moment that the finger or stylus or mouse button was released. That’s the salient part here.” *See* Ex. 1052, 83:11–84:2. But Neonode contends that Dr. Rosenberg's cross-examination testimony was incorrect, and we agree. *See* PO Sur-reply 4 (citing Ex. 2013 ¶¶ 44–48). We find Dr. Rosenberg's previous declaratory testimony more credible than his deposition testimony because only the former is consistent with the evidence in the '993 patent,

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discussed above, describing a tap as a touch and release from the same or nearly the same location, and clearly distinguishing from a separate gesture that comprises gliding to a different location.

In its Reply, Petitioner notes Dr. Rosenberg’s contradictory testimony and argues that at least under Neonode’s proposed construction, a “tap” would include Ren’s “a→b→c→a” gesture. Pet. Reply 3, 9–10; *see infra* Section III.C.2. According to Petitioner, this gesture “allows the user to *recover* from an incorrect landing by sliding on to the target.” Pet. Reply 10.

But Petitioner later clarifies that “[n]either Petitioner[] nor Dr. Bederson rely on Ren’s a→b→c→a route . . . as being within the scope of the term ‘tap’ or ‘tap-activatable.’” Paper 66, 2. Indeed, in a related IPR, counsel for Neonode asked Dr. Bederson whether a gesture equivalent to Ren’s “a→b→c→a” gesture would mean a “tap,” and he responded that he had not analyzed that question, but that “it probably doesn’t.” Ex. 2029, 164:24.<sup>13</sup>

Thus, for our decision, we interpret *tap-activatable* as being activatable by a gesture that involves touching a screen and then lifting off the screen from the same or nearly the same location.

### 3. “*system function*”

Neonode argues that we should construe the term *system function* to mean “services or settings of the operating system.” PO Resp. 9 (emphasis omitted). According to Neonode, the ’993 patent describes two

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<sup>13</sup> This testimony is the subject Neonode’s unopposed motion to submit supplemental information under 37 C.F.R. § 42.123(b), which we grant as discussed below. *See infra* Section V.



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embodiments: (1) a mode in which there is an active application and the display features a selection of icons depending on that application, and (2) a mode in which there is no active application and the icons represent pre-designated system functions. *Id.* at 9–10 (citing Ex. 1001, 2:25–29, 2:31–34, 4:20–40, 7:6–13). Neonode contends that claim 1 is directed to this second mode rather than the first. *Id.* at 10 (citing Ex. 1001, 6:54–58).

Petitioner disagrees that these two modes are distinct embodiments, because they both take place on a single user interface. Pet. Reply 5. According to Petitioner, the claim is satisfied while the device is operating in either mode, and “there is no support that the claims are limited only to a use case where no application is currently active.” *See id.*

We agree with Petitioner. The evidence of record does not suggest that a person of ordinary skill in the art would have considered claim 1 to apply only where there is no active application. Rather, claim 1 is consistent with either operating mode, so long as in that mode, the display presents “a plurality of tap-activatable icons for a respective plurality of pre-designated system functions.” Ex. 1001, 6:55–57.

Indeed, the ’993 patent discloses an icon for a “help” function in either mode, which Neonode concedes is a system function. *See* PO Resp. 10 (citing Ex. 1001, 2:31–34, 4:36–40); *see also* Ex. 1001, 7:6–8 (claim 4, which depends from claim 1 and further recites that “the plurality of pre-designated system functions comprises a help function”). As Petitioner correctly points out, “a clock, alarm, or help function [does not] cease to be a service or setting of the operations system if an application is active.” Pet. Reply 17. Although a single *help* icon is not in itself a “plurality” of icons for system functions as recited in claim 1, the ’993 patent does not suggest

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that, a “help” function is the only possible function that can be both a system function and one of the “services or functions depending on the current active application.” *See* Ex. 1001, 4:20–23.

Neonode also distinguishes between an “application” and a “system function.” PO Resp. 11–13. According to Neonode, some of the applications described in the ’993 patent, such as those depicted in Figure 6, are in the context of a separate file and task manager comprising menu items that are not among the “tap-activatable” icons that would correspond to a system function. *See id.* at 11–12.<sup>14</sup>

In its Reply, Petitioner argues that the ordinary and customary meaning of the term “function” includes an application or any other “program or routine,” and that a person of ordinary skill in the art would have recognized that icons correspond to applications. Pet. Reply 3 (citing Ex. 1057, 238, 31 (dictionary definitions for “function” and “application,” respectively); Ex. 1051 ¶¶ 28–29). Petitioner also argues that a former set of claims, which the applicant ultimately cancelled during prosecution, referred to “an alarm clock application,” “a help application,” “an application for setting the time for the clock,” and “an application for configuring a background picture for the touch sensitive display”—suggesting to a person

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<sup>14</sup> We disagree that menu items in Figure 6 are not “tap-activatable,” because the ’993 patent states that each menu item is activated by highlighting it (E, F) and then “tapping G, H on the touch sensitive area 1.” Ex. 1001, 5:14–15. But we agree with Neonode that Figure 6 is not pertinent to the construction of *system function* for a different reason: only one menu item in figure 6—the highlighted one—is tap-activatable at any one time. *See id.* at 5:11–21. Thus, Figure 6 does not depict “a plurality of tap-activatable icons” as recited in claim 1, and would not correspond to the recited plurality of system functions. *Id.* at 6:55.

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of ordinary skill in the art that alarm, help, clock, and background-setting system functions can be applications. *Id.* at 4 (emphasis omitted) (quoting Ex. 1003, 567) (citing Ex. 1001, 4:38–40, Fig. 3; Ex. 1003, 572–73; Ex. 1051 ¶ 32).

Petitioner also argues that the ordinary meaning of *system functions* is not limited to functions of an operating system, but merely “includes functions that relate to the system of the particular device,” which may be “applications included with the operating system.” Pet. Reply 4 (citing Ex. 1051 ¶¶ 30–31).

We agree with Petitioner that a “system function” can be an application in the context of the ’993 patent. But we agree with Neonode that a construction that includes any “functions that relate to the system of the particular device” (Pet. Reply 4) is too broad. First, we do not find credible Dr. Bederson’s testimony that a person of ordinary skill in the art “would have understood the ‘system functions’ to be any functions the mobile phone (i.e., the system) is capable of executing” (Ex. 1051 ¶ 30). As Neonode persuasively argues, this broad construction “reads ‘system’ out of the claim as a limiting element.” PO Sur-reply 9 (citing *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017)).

Second, we agree with Neonode that Petitioner’s proposed broad construction is inconsistent with the prosecution history of the ’993 patent. During prosecution, the applicant deleted original claims reciting “an application” and replaced them with claims reciting “pre-designated system functions.” Ex. 1003, 403–04. The applicant also “distinguished several references on the ground that they did not disclose a home state presenting controls for a plurality of system functions.” PO Sur-reply 9 (Ex. 1003, 411–

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415). This amendment evinces an intention to narrow the scope of the claims so that the recited “system functions” includes not just any functions or applications relating to the system, but functions of a type that could be accessible in a home screen where “no application is currently active on the computer unit.” Ex. 1001, 4:36–37. According to the ’993 patent, these functions would “represent services or settings of the operations system of the computer unit.” *Id.* at 4:38–39. As further support for this, the ’993 patent refers to the services or settings associated with “applications” separately from the services or settings associated with “the operations system.” *Id.* at 2:25–34, 4:36–40, 4:63–65.

Thus, although we agree with Petitioner that a “system function” can be a program or routine, we agree with Neonode that a person of ordinary skill in the art would have understood the term *system function* to be not just any program or routine operable on or relating to the system, but rather, services or settings of the operating system. We therefore construe the term *system function* to mean “services or settings of the operating system, which may include a program or routine.”

### C. OBVIOUSNESS OF CLAIMS 1–8 (GROUNDS 1A–D)

We now consider Petitioner’s unpatentability grounds. First, Petitioner contends that claims 1–3, 7, and 8 are unpatentable under § 103(a) as obvious over Hisatomi in view of Ren, and that claims 4, 5, and 6 are unpatentable as obvious over Hisatomi and Ren, and further in combination with Allard-656 (claim 4), Tanaka (claim 5), or Kodama (claim 6). Pet. 1, 27–63.

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A claim is unpatentable under § 103(a) for obviousness if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). When a ground in a petition is based on a combination of references, we consider “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We base our obviousness inquiry on factual considerations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) any objective indicia of obviousness or non-obviousness that may be in evidence. *See Graham*, 383 U.S. at 17–18.

Considering these factors, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–8 are unpatentable under § 103(a) as obvious based on Grounds 1A–D. We begin our analysis with a brief overview of Hisatomi and Ren, and then we address the parties’ contentions with respect to the challenged claims.

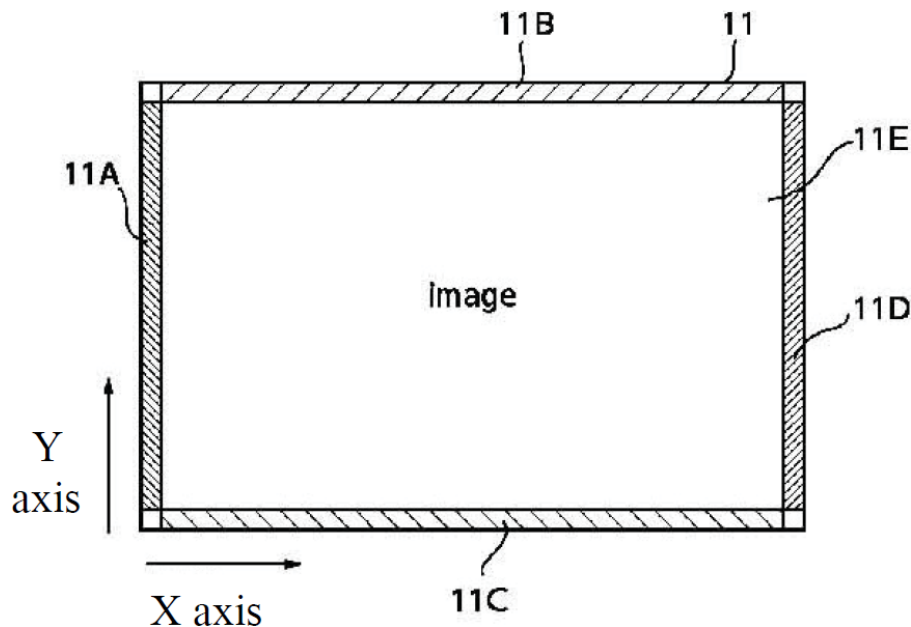
### *1. Overview of Hisatomi*

Hisatomi is a foreign application published on February 20, 2002. *See* Ex. 1005, code (43). It describes a notebook-size portable information device with a built-in camera and microphone, and with a display screen that receives coordinate information from a pen-type input device. *Id.* ¶¶ 12–13, Figs. 1–4. The inventors intended the device to solve the problem of

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“simultaneously display[ing] a menu and a main image in a small image display [device] without hindering any editing work.” *Id.* at code (57).

Figure 5, reproduced below, illustrates a touch panel display embodying the invention:

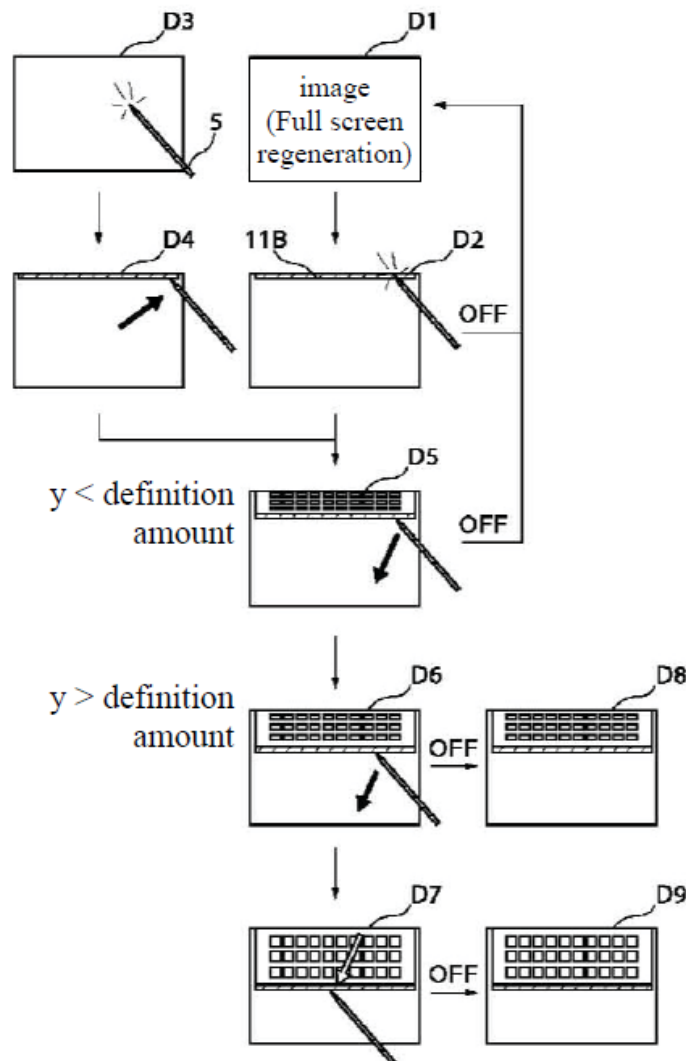


*See* Ex. 1005 ¶ 17. As shown above, touch panel display 11 includes image display area 11E, as well as menu display trigger areas 11A–D, which are strips along the edges of the display. *Id.* ¶ 18. When a pen-type input device moves from one of strips 11A–D toward the center of the display, the device reveals a pull-out menu. *See id.*

Figure 12 of Hisatomi, reproduced below, is an example of the pen-based gesture used to pull out a character-input panel:

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[FIG. 12]



Ex. 1005 ¶ 22 (noting that menu 11B performs a “character input function that adds characters to the image”). Figure 12, above, shows a series of screens D1–D9 showing various states in the process of pulling down a keyboard panel. Screen D1 depicts the device in its initial state showing only the full screen image (such as a photograph) without showing the trigger areas along the edges of the screen. *See id.* ¶ 40. Screen D3 illustrates that when pen 5 touches the screen in an area outside trigger areas 11A–D, the pull-out menus are not triggered. Trigger areas 11A–D also remain inactive

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if the pen first touches the screen in an area outside the pull-out strip areas and thereafter slides into a trigger area while touching the screen (screen D4), or if the pen touches and lifts off the display while inside one of trigger areas 11A–D (screen D2). *See id.* ¶ 41.

Screens D5–D9 show pen 5 pulling down the character-input menu by moving toward the center of the screen by a distance  $y$  without lifting off the display. Ex. 1005 ¶ 44. If the user releases pen 5 before moving a threshold distance (“definition amount”), then the pull-out process is cancelled (screen D5); otherwise, the panel remains open and can be used in its partially (screens D6 and D8) or fully (screens D7 and D9) open state. *Id.* ¶ 48.

Hisatomi also discloses that, in addition to trigger areas 11A–D at the edges of the display, the display may also include trigger areas at the corners, as shown in Figure 28, reproduced below:



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[FIG. 28]

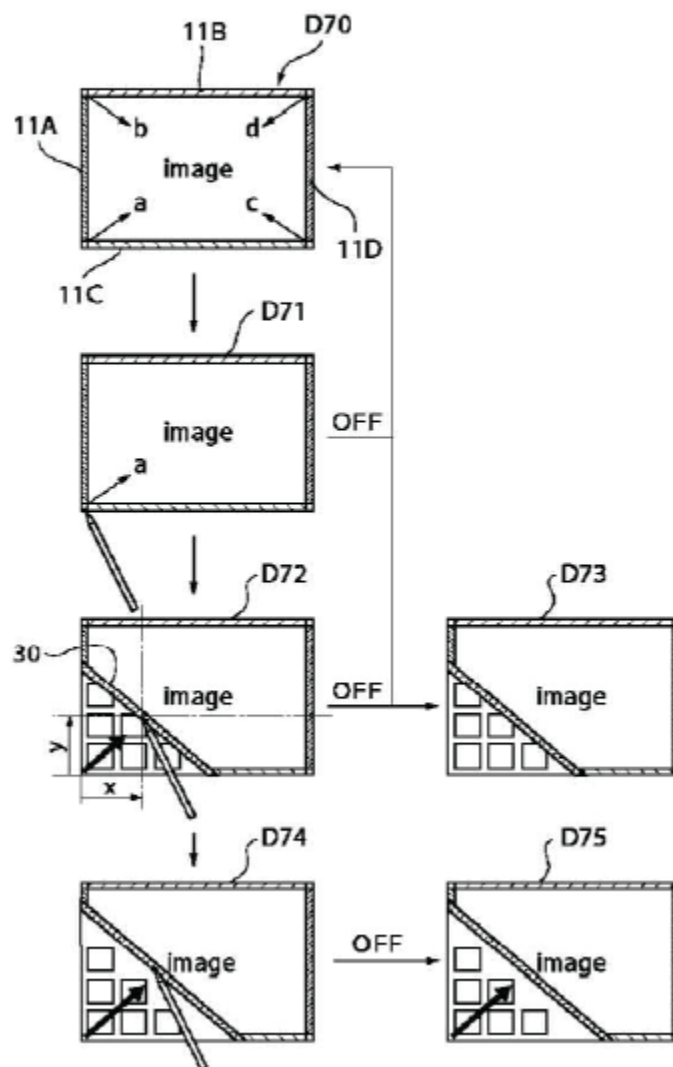


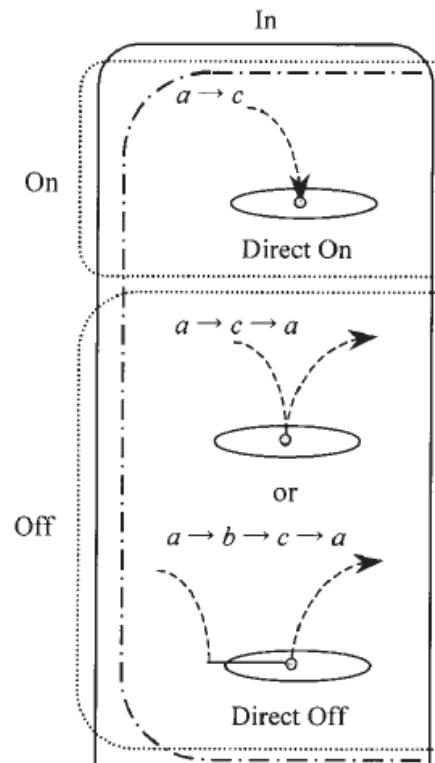
Figure 28, above, depicts screen D70 with trigger areas 11A–D as described above, but also with trigger areas a, b, c, and d at the corners, which also have pull-out menus as depicted in screens D72–75. Ex. 1005 ¶ 113.

Because trigger areas a–d are smaller and less easily touched, the corner-pullout menus corresponding to trigger areas a–d are for “functions that are rarely used such as special settings, etc. (for example, detailed settings, user settings, etc.).” *Id.* ¶¶ 114–115.

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## 2. Overview of Ren

Ren is a journal article comparing different pen-based selection strategies for use on small, touch-sensitive screens. Ex. 1006, 384–85. Two of these strategies, called *Direct On* and *Direct Off*, are reproduced below in an extracted portion of Figure 3:



Ex. 1006, 390. As shown above, the *Direct On* strategy, described as “a → c,” is where “the pen approaches from above,” and “[t]he target is selected only momentarily at the time the pen makes contact with the screen in the target area.” *Id.* at 389. An ellipse represents the target. *See id.* at 387 & Fig. 1.

For the *Direct Off* strategy, “the target is highlighted only while the pen is touching it,” and “[t]he selection is made at the moment the pen is taken off the target.” Ex. 1006, 390. Figure 3 shows two variations of the *Direct Off* strategy, described as “a → c → a,” in which the pen touches a target (a → c) and then directly lifts off the target (c → a), and “a → b → c → a,”

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in which the pen touches outside the target area (a→b), slides onto the target (b→c), and then lifts off the target (c→a). *See id.* at 390–91 & Fig. 3.

### 3. *Whether Hisatomi Is Prior Art*

Hisatomi published on February 20, 2002. Ex. 1005, code (43). This is several months before the '993 patent's earliest priority date of December 10, 2002. Ex. 1001, code (63). But Neonode contends that the named inventor Magnus Goertz conceived and reduced to practice the claimed invention between late 2001 and March 2002; thus, Neonode contends that Hisatomi is not prior art. *See* PO Resp. 13–17.

According to Neonode, Mr. Goertz “conceived of the idea of a mobile phone programmed to use swiping gestures for navigation in 2000,” and by 2001 had invented a touchscreen-controlled system (called “zForce”) for which he filed a Swedish patent application on November 2, 2001. PO Resp. 16; *see* Ex. 2017, code (30) (U.S. Patent No. 7,880,732, which claims priority to this Swedish application). Neonode argues that Mr. Goertz conceived of the claimed invention by that Swedish filing date, and then continued working on the technology so that by mid-March 2002, he and a business collaborator Thomas Eriksson had developed a working prototype referred to as “N1.” PO Resp. 16–17.

Neonode asserts that Messrs. Goertz and Eriksson demonstrated this prototype at the 2002 CeBIT trade show, held in mid-March 2002. PO Resp. 14 (citing Ex. 2014, 11 (a business plan dated May 2003 showing early “[i]mportant [m]ilestones” in the development of the prototype); Ex. 2015 ¶ 3 (declaration of Per Bystedt, who testifies that he met with Messrs. Goertz and Eriksson in 2004 to discuss investment in Neonode)). According to Mr. Eriksson’s testimony in an earlier litigation, this prototype “included

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programming for unlocking the phone by swiping along the bottom of the display from one side to the other.” *Id.* at 15 (citing Ex. 2005, 12:22–13:1, 14:6–15:9). Thus, according to Neonode, “the invention of the ’993 Patent was reduced to practice by no later than mid-March 2002, and was preceded by diligent efforts to accomplish that objective.” *Id.*

In support of this timeline, Neonode presents “internal Neonode documents from 2003–04” including document indicating that “Goertz and Eriksson had begun working on the ‘Operating system Shell’—including the ‘main user interface for N1’ and ‘User Input through zForce (Patented user input system)’—by December 1, 2001, and had begun working on ‘User interface components’ by February 10, 2002.” PO Resp. 15 (quoting Ex. 2020, 4–5). Neonode also points to “an article in 2009 recounting [a reporter’s] impression of the N1 prototype at the March 2002 CeBIT trade show.” *Id.* at 15–16 (citing Ex. 2021).

Petitioner argues that Neonode has not adequately connected the evidence to the limitations of the challenged claims, and has not provided contemporary corroboration. Pet. Reply 5–6.

We agree. Although Petitioner has the ultimate burden of persuasion on the issue of unpatentability, Neonode has the initial burden of production to show that Hisatomi is “not prior art because the asserted claims in the [’993] patent are entitled to the benefit of a filing date (constructive or otherwise) prior to” Hisatomi’s publication date. *See Dynamic Drinkware*, 800 F.3d, 1375, 1380 (Fed. Cir. 2015). Although Neonode may have had a prototype by mid-March, Neonode has not produced any evidence showing that this N1 prototype embodied each limitation of the challenged claims. Nor has Neonode produced evidence that Mr. Goertz “disclosed to others his

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‘completed thought expressed in such clear terms as to enable those skilled in the art’ to make the invention.” *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985) (quoting *Field v. Knowles*, 183 F.2d 593, 601 (CCPA 1950)).

During the oral hearing, counsel for Neonode conceded “that under the Federal Circuit’s current guidance with what we currently have, we do not have sufficient corroboration.” Tr. 61:20–22.

Because the evidence of record does not meet Neonode’s initial burden of production in antedating Hisatomi, we determine that the evidence of record supports Petitioner’s argument that Hisatomi is prior art to the challenged claims.

#### 4. *Claim 1*

##### (a) Preamble

The preamble of claim 1 recites “[a] non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen, cause the processor to enable a user interface of the device.” Ex. 1001, 6:50–53. Petitioner argues that Hisatomi discloses the preamble because it describes an electronic device with a touch-sensitive screen, a processor, and memory storing instructions for operating the device. *See* Pet. 27–30.

Neonode does not contest Petitioner’s arguments that Hisatomi discloses the preamble. *See* PO Resp. 17–33. Assuming, without deciding, that the preamble is limiting, we agree that Hisatomi discloses the medium recited in the preamble of claim 1. *See, e.g.*, Ex. 1005, Fig. 8 (showing a processor and memory for storing instructions), Figs. 3, 4 (showing that the

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device has a touch-sensitive display screen), Fig. 9 (showing functions of a user interface).

(b) Limitation 1.a: “the user interface comprising at least two states”

Limitation 1.a recites “the user interface comprising at least two states.” Ex. 1001, 6:53–54. Petitioner’s arguments for this limitation, and Neonode’s response, hinge on whether Hisatomi discloses both a “tap-present” and “tap-absent” state. *See* Pet. 30–32; PO Resp. 17–30 (disputing Petitioner’s contention that Hisatomi discloses a “tap-present state”). As we discuss below in the context of limitations 1.b and 1.c, we find that Hisatomi discloses both states. Thus, Petitioner persuasively shows that Hisatomi discloses a user interface comprising at least two states.

(c) Limitation 1.b: “a tap-present state . . .”

Limitation 1.b recites “(a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated system functions are present, each system function being activated in response to a tap on its respective icon.” Ex. 1001, 6:54–58. The contested issues regarding limitation 1.b are (1) whether the combination of Hisatomi and Ren teaches “tap-activatable icons” and, therefore, a “tap-present state” and (2) whether the icons in Hisatomi’s system are for “pre-designated system functions.” *See* PO Resp. 17–33. We address these two issues below:

(1) *“tap-activatable icons”*

Petitioner makes alternative arguments for the “tap-activatable” aspect of limitation 1.b. *See* Pet. 36. First, according to Petitioner, Hisatomi teaches this limitation “in combination with a [person of ordinary skill in the art]’s

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general knowledge of well-known selection techniques in the prior art.” *See* Pet. 36. Petitioner contends that in Hisatomi, after the user has used the pen to expand one of pull-out menus 11A–D, the device is in a tap-present state, which makes icons tap-activatable. *See* Pet. 32–33 (citing Ex. 1005<sup>15</sup> ¶ 22, Fig. 9; Ex. 1002 ¶ 127).

According to Petitioner, “[i]t would have at least been obvious to a [person of ordinary skill in the art] that each icon is capable of selection (activation) by a user touching or tapping the icon with the pen device.” Pet. 34 (citing Ex. 1002 ¶ 130). In support of this, Petitioner points to passages in Hisatomi stating that one of the icons in the pull-out menu is “selected” or “touched.” Pet. 34–36 (citing Ex. 1005 ¶¶ 3, 15, 55, 126, 131, 189, Figs. 13, 15, 27–31, 49, 50; Ex. 1002 ¶ 131).

In response, Neonode argues Hisatomi does not explicitly disclose tap-activatable icons or a tap-present state, and that the general background knowledge in the art would not have supplied these missing limitations. PO Resp. 17–22. According to Neonode, Hisatomi discloses “touch” activation, where activation occurs on the touch, rather than “tap” activation, where activation occurs on the release or lifting motion. *See id.* at 17–18. Neonode argues that Hisatomi only indicates that an icon in a pull-down menu is activated based on the coordinates of the touch, and that Hisatomi does not disclose that this determination waits for a lifting motion before activating the selected icon. *See id.* at 18–20 (citing Ex. 1005 ¶¶ 39, 41, 43, 47–48, 52,

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<sup>15</sup> Here and elsewhere, some of Petitioner’s citations to Hisatomi mistakenly refer to Exhibit 1004 rather than Exhibit 1005. Some of Neonode’s citations to Hisatomi make the same error. *See, e.g.*, PO Resp. 18–19. In our citations, we identify what we believe is the intended exhibit.

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54–55, 63, 66, Figs. 10–13; Ex. 2013 ¶¶ 67–70, 74); PO Sur-reply 5 (citing Ex. 1005 ¶ 55, Fig. 13). Neonode also argues that Dr. Bederson’s testimony on this limitation is based on an erroneous construction of *tap* that fails to distinguish between touch and tap operations. *See* PO Resp. 20–21 (citing Pet. 34–35; Ex. 1002 ¶ 130; Ex. 1005 ¶ 15, Figs. 13, 15, 49, 50, 126, 189, Figs. 30, 49; Ex. 2013 ¶ 72).

We agree with Neonode that Petitioner has not shown that Hisatomi discloses a “tap-present state” or “tap-activatable icons” consistent with our construction of the term tap-activatable as meaning “activatable by a gesture that involves touching a screen and then lifting off the screen from the same or nearly the same location.” *Supra* Section III.B.2. In particular, Petitioner has not shown that Hisatomi, without further specific teachings in the prior art, discloses or teaches a gesture in which the lifting or release motion is a factor in activating an icon. Petitioner’s arguments, at best, suggest that Hisatomi is ambiguous in distinguishing between a touch and a tap, which fails to meet Petitioner’s burden of persuasion in showing that Hisatomi itself affirmatively teaches a tap gesture. *See, e.g.*, Pet. Reply 12 (citing Ex. 1005 ¶ 55, Fig. 13; Ex. 1051 ¶¶ 54–58).

But we do find persuasive Petitioner’s alternative argument, which relies on Ren for teaching a tap operation. In its alternative argument, Petitioner contends that Hisatomi teaches limitation 1.b in view of Ren’s teaching of the “a→c→a” variant of a *Direct Off* operation. Pet. 36 (citing Ex. 1002 ¶ 133). Petitioner argues that “[i]t would have been obvious to a [person of ordinary skill in the art] to implement the Hisatomi device such that the icons are selected using the tap technique disclosed in the ’993



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patent,” which was “well-known,” and “explicitly disclosed by Ren.” Pet. 37 (citing Ex. 1006, 390, 403).

Petitioner also argues that tapping “was one of a handful of well-known selection techniques for selecting a target (such as an icon or menu) in a GUI at the priority date of the ’993 patent.” Pet. 37–38 (citing Ex. 1006, 390, 403). And according to Petitioner, Ren teaches its desirability, “for example, in dense displays where targets are close together,” and implementing it in Hisatomi’s device “would have been within the level of ordinary skill” and would have achieved “predictable results.” Pet. 38 (citing Ex. 1006, 403; Ex. 1002 ¶ 136).

In response, Neonode does not contest that Ren’s “a→c→a” variant of the *Direct Off* gesture constitutes tapping as recited in claim 1. *See* PO Resp. 24 (acknowledging that *Direct Off* is a “tap, in one variant”). Neonode also acknowledges that Ren teaches that *Direct Off* is “technically viable for dense displays” such as Hisatomi’s device. *Id.*

But Neonode contends that Ren clearly teaches a preference for *Direct On* (“a→c”) for such displays. PO Resp. 24 (citing Ex. 2013 ¶¶ 87–89). According to Neonode, Ren teaches experimentally that the activation time for *Direct On* is significantly faster than the *Direct Off* “a→c→a” strategy (1027.5 ms compared to 1543.9 ms, respectively, in one experiment, and a greater difference in a second experiment). *Id.* (citing Ex. 1006, Figs. 5, 11; Ex. 2013 ¶ 89).

Neonode also argues that, although Ren’s experiments seem to show lower error rates for *Direct Off* than for *Direct On* at the smallest target sizes (1–2 mm), these target sizes are smaller than any realistic touch-screen icon, and that Ren’s data shows a trend in favor of *Direct On* for Ren’s largest-

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tested target size (3 mm). *See* PO Resp. 25–26 (citing Ex. 1006, 399, 408, Fig. 10; Ex. 2013 ¶¶ 93–96).

And according to Neonode, the error rates for *Direct Off* were artificially deflated because *Direct Off* data includes both “a→c→a” and “a→b→c→a” variants, thus providing “two routes that yielded a successful selection.” PO Resp. 24–25 (citing Ex. 1006, 390, Fig. 3; Ex. 2013 ¶¶ 90–92). Thus, Neonode argues that a person of ordinary skill in the art would have understood Ren as teaching away from *Direct Off* in terms of both speed and accuracy on devices such as Hisatomi’s. *Id.* at 26–27 (citing Ex. 2013 ¶ 96; *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1069 (Fed. Cir. 2018); *Adidas AG v. Nike, Inc.*, 963 F.3d 1355, 1359 (Fed. Cir. 2020); *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 993–94 (Fed. Cir. 2017)).

In its Reply, Petitioner points to a concession by Dr. Rosenberg that Ren does not “explicitly” state a preference for *Direct On* over *Direct Off*. Pet. Reply 7 (citing Ex. 2013 ¶ 87). Although Petitioner disputes that Ren teaches a preference for *Direct On* (*see id.* at 7–10), we need not address those arguments because we agree with Petitioner that, even if Ren expresses a preference for *Direct On*, that preference does not rise to the level of a teaching away. *Id.* at 10–11. “A reference does not teach away . . . if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). Also, “just because ‘better alternatives’ may exist in the prior art ‘does not mean that an inferior combination is inapt for

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obviousness purposes.” *Dome Patent L.P. v. Lee*, 799 F.3d 1372, 1381 (Fed. Cir. 2015) (citing *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012)). At most, Ren shows that touch activation has certain benefits over tap activation in certain circumstances, the evidence does not suggest that these tradeoffs would have dissuaded a person of ordinary skill in the art from investigating the use of tap activation in Hisatomi’s device. Thus, we disagree with Neonode that Ren teaches away from the use of tap activation.

For the above reasons, Petitioner persuasively shows that Hisatomi in view of Ren discloses a tap-present state and tap-activatable icons.

(2) “system functions”

Next, Petitioner contends that in Hisatomi, after the user has used the pen to expand one of the pull-out menus corresponding to trigger areas 11A–D, a “classification menu” appears comprising icons of a particular category, “such as a search function, character input, image processing and editing functions, and save functions, respectively.” Pet. 32–33 (citing Ex. 1005 ¶ 22, Fig. 9; Ex. 1002 ¶ 127). Petitioner argues that these functions are “system functions” analogous to functions described in the ’993 patent, which include “services such as ‘save to disk,’ ‘send as SMS,’ or ‘delete’ and . . . settings such as ‘resolution,’ ‘colour,’ or ‘brightness.’” Pet. 33 (quoting Ex. 1001, 4:31–35; Ex. 1002 ¶ 128), 60–61 (citing Ex. 1002 ¶ 178).

Petitioner also argues that the icons in the corner pull-out menus (corresponding to trigger areas a–d) correspond to system functions, such as the “detailed settings” menu depicted in screen D84 of Figure 30. *See* Pet. 35, 47 (citing Ex. 1005 ¶¶ 126, 154, Fig. 30). And Petitioner argues that “Hisatomi does not limit how the menus are categorized or the types of functions that may be accessed via these menus.” Pet. 58.

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In response, Neonode argues that none of the functions disclosed in Hisatomi are “system functions,” as that term is properly construed, but are application functions, presented as icons within a digital camera application, analogous to the application-dependent functions described in ’993 that appear when there is a currently active application running. *See* PO Resp. 31–33 (citing Ex. 1001, 4:31–35; Ex. 1002 ¶ 178; Ex. 1005 ¶¶ 34–36; Ex. 2013 ¶¶ 107–109).

In its Reply, Petitioner argues that the icons of Hisatomi’s edge and corner pullout menus are system functions even under Neonode’s proposed construction. Pet. Reply 15–16 (citing Ex. 1005 ¶¶ 125–126, Fig. 30 (screen DE84)). Petitioner also contends that Dr. Rosenberg agreed on cross-examination that a “search” function can be a system function, at least in the context of the 2002 Windows CE operating system. *Id.* at 16 (citing Ex. 1052, 59:18–60:5; Ex. 1028, 31 (HP Jornada 520 Series Pocket PC User’s Guide, describing a function for finding files); Ex. 1051 ¶ 68).

Petitioner further contends that the functions related to Hisatomi’s camera—such as the “Search,” “Character input,” “Process and regenerate,” and “Save and organize” functions S19–S22 shown in Figure 9—are system functions, not application functions. *See* Pet. Reply 17. According to Petitioner, “Hisatomi’s camera functionality is not an ‘application.’ The first step when the power is turned on is ‘the images taken in the past are regenerated and it will become a display state possible to be viewed like an album.’” *Id.* (quoting Ex. 1005 ¶ 34, Fig. 9). Petitioner argues that “[n]o user interaction is required to launch an ‘application,’ nor can the user ‘close’ the alleged ‘application.’ The functionality of Hisatomi’s Figure 9 is therefore that of a camera ‘system’ having pull-out menus including icons for

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applications, services, or settings of that ‘system.’” *Id.* (citing Ex. 1051 ¶ 75).

In its Sur-reply, Neonode argues that there is a distinction between “‘icons for’ system functions” and “‘icons for application functions that may make a call to an operating system function.” *Id.* at 11. According to Neonode, the latter would include “save” and “delete” functions available in the ’993 patent when there is a current application running. PO Sur-reply 11–12 (citing Ex. 1001, 4:31–35, 4:20–40). Neonode also argues that the “search” function in Hisatomi’s classification menu would correspond not to one icon, but to “a montage of ‘images that have been taken and saved in the past . . . .’” *Id.* at 12–13 (alteration in original) (quoting Ex. 1005 ¶ 22) (citing Ex. 1005 ¶ 66, Fig. 17).

As to Dr. Rosenberg’s admission on cross-examination about the “search” function in the 2002 Windows CE operating system, Neonode argues that “what Dr. Rosenberg said was that if one were to ‘pull up a search functionality from the home screen’ of a device running Windows CE, then the search functionality would be a system function.” PO Sur-reply 13 (quoting Ex. 1052, 59:18–60:5). But “[t]he critical limitation is the one included in the question—the search functionality from the home screen, not the search functionality from an application.” *Id.*

As to Petitioner’s assertions about functions corresponding to icons in Hisatomi’s corner pullout menus, Neonode counters that “Hisatomi is largely opaque as to what these settings include, describing them (in a section concerning a different embodiment) as ‘functions that are rarely used such as special settings, etc. (for example, detailed settings, user settings, etc.) . . . .’” PO Sur-reply 13 (alteration in original). But according to

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Neonode, “[t]here is no indication that the icons for these settings are icons for system functions—to the contrary, [the disclosure] suggests that they are merely settings for Hisatomi’s camera application.” *Id.*; *see also id.* at 14–16 (citing Ex. 1005 ¶¶ 4, 6, 12–15, 34–35, 243, Figs. 1–3, 5–6, 9) (arguing that the problems and solutions presented in Hisatomi are directed to a camera application, and this is true even if the system’s only application is a camera application).

Having considered the arguments on both sides, we find Petitioner’s argument persuasive that a person of ordinary skill in the art would have understood that the icons in Hisatomi’s pullout menus would comprise a plurality of system functions. In particular, we agree with Petitioner that Hisatomi’s “search” function is a system function. We disagree with Neonode’s argument that in Hisatomi, functions such as “search” do not correspond to icons. According to Hisatomi, “to display *a menu of the names of many processing functions* of the portable information processing device 01 on the image display screen 09, these various processing functions are classified into four categories in advance and assigned to A to D classification menus.” Ex. 1005 ¶ 20 (emphasis added). This indicates that there are individual menu items corresponding to each of the available processing functions. As Petitioner points out, Hisatomi discloses that these “menu items” can be either “icons or characters corresponding to each function.” Pet. 33 (quoting Ex. 1005 ¶ 25) (citing Ex. 1005 ¶¶ 3, 21; Ex. 1002 ¶ 129).

As we discuss above, we do not agree with Neonode that the term *system function* only includes functions that are selected from a home screen. *See supra* Section III.B.3. Rather, we agree with Petitioner that an

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icon for a system function does not cease to be an icon for a system function if it is selected in the context of an application running on top of an operating system. *See* Pet. Reply 16–17. Thus, for example, a “search,” “character input,” or “save” function is a system function if it corresponds to a service or setting of the operating system, regardless of whether it is accessible within an application or from an operating system’s home screen.

We also credit and find persuasive Dr. Bederson’s testimony that Hisatomi’s camera functionality is integrated into the operating system and is not a distinct application, because it begins processing images as the first step when the system is powered on and cannot be “closed.” *See* Ex. 1051 ¶ 75 (citing Ex. 1005 ¶ 34). This is consistent with Hisatomi’s disclosure that based on the coordinate of icons on the display screen, the device’s CPU “will execute various functions based on the operating system stored in the ROM[.]” Ex. 1005 ¶ 30.

When asked about this at the oral hearing, counsel for Neonode argued that, at a base level, every function in an electronic device will make calls to operating system functions. *See* Tr. 64:20–66:6. We do not find this explanation consistent with Hisatomi’s disclosure, which states that these operating system functions are executed “according to the detected coordinate information” of a selected “soft button on the screen.” Ex. 1005 ¶ 30. As Dr. Rosenberg conceded on cross-examination, whether or not a camera application is a system function “depends on what the designers of the operating system chose to include.” Ex. 1052, 59:15–16. The evidence shows that in Hisatomi’s device, the operating system designers chose to include camera functions. Thus, we agree with Petitioner that the camera-related functions in Hisatomi’s pull-out menus are system functions.

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For the above reasons, we determine that Hisatomi teaches limitation 1.b in view of Ren’s teachings about a *Direct Off* ( $a \rightarrow c \rightarrow a$ ) selection strategy.

- (d) Limitations 1.c and 1.d: “a tap-absent state . . .” and the recited gesture “away from and out of the strip”

Limitation 1.c recites “(b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture.” Ex. 1001, 6:58–63. Limitation 1.d specifies that this gesture comprises “(i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.” *Id.* at 6:63–65.

Petitioner argues that Hisatomi’s “tap-absent state” “begins with ‘a photo image or the like . . . displayed using the full screen of the image display screen,” where “no icons or function lists are displayed.” Pet. 38 (quoting Ex. 1005 ¶¶ 40, 124; Ex. 1002 ¶ 138). Petitioner relies on testimony of Dr. Bederson that this state does not include tap-activatable icons, but discloses graphics, in the form of trigger areas 11A–D, that are “otherwise-activatable” by gliding the pen from the trigger area away from the strip and toward the center of the screen. *See* Pet. 39–48 (citing Ex. 1005 ¶¶ 5, 18–27, 39–42, 45, 48, 52, 112–115, 124–126, 244, Figs. 4–6, 10–12, 16, 17, 19, 26–30; Ex. 1002 ¶¶ 137–155).

Neonode does not contest Petitioner’s arguments with regard to limitations 1.c and 1.d. *See* PO Resp. 22–33. We find the arguments



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persuasive and we credit Dr. Bederson’s supporting testimony because Hisatomi clearly discloses a state, as shown in Figure 5, in which there are no tap-activatable icons, but there are strips along the edges or corners activatable by a touch-and-glide gesture, as depicted in Figures 12 and 28.

In summary, Petitioner establishes that Hisatomi discloses all of claim 1’s limitations, except for “a tap-present state” with “a plurality of tap-activatable icons.” Petitioner further establishes that Hisatomi teaches that limitation in view of Ren’s *Direct Off* ( $a \rightarrow c \rightarrow a$ ) selection strategy. Petitioner also shows that one of ordinary skill in the art would have had a reason to use Ren’s *Direct Off* ( $a \rightarrow c \rightarrow a$ ) selection strategy in Hisatomi’s device.

(e) Alleged Objective Indicia of Non-obviousness

Neonode contends that there is evidence of commercial success, industry praise, skepticism, and industry respect for the claimed invention, which we should consider as objective indicia of non-obviousness. PO Resp. 62–67.

For us to give substantial weight to objective indicia of non-obviousness, a proponent must establish a nexus between the evidence and the merits of the claimed invention. *ClassCo, Inc., v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016). “[T]here is no nexus unless the evidence presented is ‘reasonably commensurate with the scope of the claims.’” *Id.* (quoting *Rambus Inc. v. Rea*, 731 F.3d 1248, 1257 (Fed. Cir. 2013)). For the reasons below, we determine that Neonode has not presented evidence sufficient to show a nexus between its devices and the claimed invention. We address these issues below.

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(1) *Neonode Is Not Entitled to a Presumption of Nexus*

A patentee is entitled to a presumption of nexus “when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘embodies the claimed features, and is coextensive with them.’” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (quoting *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018)).

In its Response, Neonode asserts that “[t]he N1 and N2 user interfaces embody the elements of the ’993 Patent’s claims,” and cites a page of material in Mr. Shain’s declaration. PO Resp. 63 (citing Ex. 2019 ¶¶ 5–11 (comparing the N1 and N2 devices with claims 1 and at least some of the dependent claims)). Thus, Neonode cites Mr. Shain’s testimony without analysis, and without comparing the N1 and N2 devices on a limitation-by-limitation basis with the challenged claims. *See* PO Resp. 62–67.

Petitioner points this out in its Reply. *See* Pet. Reply 26 (citing PO Resp. 63; Ex. 1053, 12:12–15 (testimony of Mr. Shain, agreeing that in preparing his declaration, he had not performed any technical analysis relating to the patent at issue)). According to Petitioner, Neonode’s statement in its Response is conclusory and “amounts to an improper incorporation by reference” of Mr. Shain’s declaration testimony. *Id.* (citing *Cisco Systems, Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 at 9–10 (PTAB Aug. 29, 2014) (informative); 37 C.F.R. § 42.6(a)(3)).

In its Sur-reply, Neonode responds that it “cited [Mr.] Shain’s testimony as evidence of the structure and functionality of the Neonode devices, supporting the argument made in the [Patent Owner Response] that

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the N1/N2 interfaces embody the elements of the challenged claims.” PO Sur-reply 23 n.2. Be that as it may, Neonode did not discuss Mr. Shain’s testimony in its Response, and it is thus an improper incorporation by reference. 37 C.F.R. § 42.6(a)(3).

On the other hand, Petitioner did not move to strike the improperly incorporated material in Mr. Shain’s declaration, and proceeded to take his deposition regarding the material and discussed that testimony in its Reply, to which Neonode responded. *See* Ex. 1053 (Shain deposition transcript); Pet. Reply 26–27; PO Sur-reply 23–24. Thus, under the circumstances, we will consider and weigh the evidence of nexus provided in Mr. Shain’s declaration and the discussion in Petitioner’s Reply and Neonode’s Sur-reply.

Petitioner contends that Neonode’s N1 and N2 devices “did *not* embody the challenged claims” because although there were three graphics and a strip at the bottom of the display, they “are not part of the display screen” as limitation 1.c requires, and the devices did not allow a touch-and-glide gesture corresponding to limitation 1.d. Pet. Reply 26 (citing Ex. 1053, 17:19–18:5, 18:10–19:1, 22:16–20). Petitioner also argues that Neonode “fails to establish the Neonode devices included a ‘tap-absent state’” according to limitation 1.c because “Mr. Shain could not confirm whether notifications on the status screen were not tap-activatable.” *Id.* (citing Ex. 1053, 15:18–20:12).

Neonode responds that Mr. Shain testified that the three icons in the strip at the bottom of the display were “within the touch sensitive area” and “that a ‘swipe up’ gesture would display tap activatable icons.” PO Sur-reply 23 (citing Ex. 1053, 18:4–5, 18:25–19:1, 22:16–20). Neonode also argues

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that, in other testimony, Mr. Shain stated that the display of the N1 and N2 devices “includes both an area with electronic pixels that can generate images and the strip with the three icons at one edge of that area.” *Id.* (citing Ex. 1053, 23:24–24:6). Neonode also argues that in claim 1, the “tap-absent state” only requires that icons are not tap-activatable, not that notifications are not tap-activatable. *Id.* at 24 (citing Ex. 1053, 19:15–20:8).

Considering Mr. Shain’s testimony in context, we agree with Neonode that his testimony describes the N1 and N2 devices as meeting limitations 1.c and 1.d. Although the three icons were not in the area with pixels that can generate images, they were “present in a strip along at least one edge of the display screen” as recited in claim 1. Ex. 1001, 6:60–61. The claim language only requires that the recited strip is “along” an edge of the display, not necessarily that it is considered part of the display itself.

As to whether a notification in the N1 or N2 would have been an icon and would have been tap-activatable, we do not find this as relevant to the issue of objective considerations of non-obviousness. Even if such notifications were considered tap-activatable icons, the user interface would still be in a tap-absent state whenever there were no such notifications. Thus, the N1 and N2 devices would still meet limitation 1.c.

But even if each limitation of the challenged claims can be found within the N1 and N2 devices, this is only one part of establishing a presumption of nexus. Neonode must show that the “product both embodies the claimed features *and* is coextensive with the claims at issue.” *Fox Factory*, 944 F.3d at 1373 (emphasis added) (quoting *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1319 (Fed. Cir. 2015)). Coextensiveness is not established, for example, “if the patented invention is only a component

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of a commercially successful machine or process.” *Id.* (quoting *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1999)).

The evidence of record suggests that the N1 and N2 devices included other, unclaimed features that people in the industry would have considered to be commercially significant. As Petitioner points out in its Reply, Neonode’s products “allegedly include ‘zForce optical sensing technology,’ which Neonode admits was the subject of a different patent application.” Pet. Reply 27 (emphasis omitted) (quoting PO Resp. 14); *see also id.* at 28 (arguing that the evidence of industry praise was directed to the unclaimed zForce technology). According to Neonode, this patented zForce technology includes swiping gestures to activate functions on the device. *See* PO Resp. 14 (citing Ex. 2017, 14:45–47, 15:6–12). Neonode also states that its prototype N1 device, displayed at CeBIT in March 2002, “included programming for unlocking the phone by swiping along the bottom of the display from one side to the other.” *Id.* at 15 (citing Ex. 2005, 12:22–13:1, 14:6–15:9). This is not a claimed feature.

Neonode relies primarily on this zForce technology, rather than the features of the challenged claims, as its evidence for industry praise. *See* PO Resp. 65 (noting that a magazine author “referenced the phone’s zForce optical sensing technology” in praising the N1 device, and that “it was *that* feature of the phone that gave ‘the NeoNode its totally unique personality and mode of operation.’” (quoting Ex. 2027, 2)). In its Sur-reply, Neonode also concedes that its witness Marcus Bäcklund “testified that Neonode’s ‘zForce’ technology ‘made the N1 revolutionary.’” PO Sur-reply 26 (quoting Ex. 1056, 36:4–9). Neonode also relies on the device’s “swiping-gesture

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user interface” for its evidence of skepticism. PO Resp. 66. And for its evidence of industry respect, Neonode argues that “[t]he excitement surrounding the phone was focused on its novel gesture-based user interface.” *Id.* at 66–67.

That Neonode has obtained a separate patent for its zForce technology, which is also a feature of the N1 and N2 devices, also leads us to conclude that zForce is a significant feature not claimed in the ’993 patent. *See Fox Factory*, 944 F.3d at 1375 (citing *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1289, 1299 (Fed. Cir. 2010) (“finding that the patentee was not entitled to a presumption of nexus because the product embodied at least two patented inventions, and the burden thus remained on the patentee to show that the product’s success was due to the invention claimed in the patent asserted in the case”)).

Thus, based on the evidence of record, we find that Neonode has not shown that its N1 and N2 products are coextensive or nearly coextensive with the claimed inventions. And consequently, a presumption of nexus is inappropriate in this case.

But even without the presumption, Neonode “is still afforded an opportunity to prove nexus by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Fox Factory*, 944 F.3d at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). Also, the nexus must be “to some aspect of the claim *not already in the prior art.*” *In re Kao*, 639 F.3d 1057, 1069 (Fed. Cir. 2011) (emphasis added). “Ultimately, the fact finder must weigh the [objective indicia] evidence presented in the context of whether the claimed invention as a whole would have been obvious to a

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skilled artisan.” *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 33 at 33 (PTAB Jan. 24, 2020) (precedential) (citing *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1331–32 (Fed. Cir. 2016)), *aff’d sub nom.* 2022 WL 499848 (Fed. Cir. Feb. 18, 2022). On this basis, we evaluate the evidence of commercial success, industry praise, skepticism, and industry respect below.

## (2) *Commercial Success*

As evidence of commercial success, Neonode contends that after Messrs. Goertz and Eriksson demonstrated the N1 prototype at the CeBIT trade show in March 2002, “Neonode received over 20,000 pre-orders for the phone, and subsequently received over 100,000 Internet pre-orders” requiring a substantial down payment. PO Resp. 63 (citing Ex. 2016 ¶ 9). Neonode also asserts that it sold approximately 40,000 N1 and N2 devices between 2004 and 2008, received inquiries from more than 100 companies expressing interest in purchasing the N1, received orders from Telcel in Mexico for 15,000 units, Proximus in Belgium for 3,000 units, TIM in Italy for 20–30,000 units, an Egyptian operator for 500 units, and an English distributor for 100,000 units. *Id.* (Ex. 2015 ¶ 11; Ex. 2016 ¶ 10; citing Ex. 2022 ¶ 6; Ex. 2024, 2–4; Ex. 2026, 6); *see also* PO Sur-reply 24–25 (reiterating evidence relating to the number of unit orders).

Petitioner disputes the accuracy of this evidence, and argues that it lacks support. *See* Pet. Reply 27–28 (citing Ex. 1054, 18:22–19:25, 22:16–24, 23:1–22, 25:1–22, 29:7–30:16; Ex. 1056, 29:12–14). But even if we accept the figures as accurate, Neonode’s evidence only tells us the number of units sold. And “evidence related solely to the number of units sold provides a very weak showing of commercial success, if any.” *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996). Instead, “[t]he more probative evidence

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of commercial success relates to whether the sales represent ‘a substantial quantity in th[e] market.’” *In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012). But Neonode has not produced evidence establishing the size of the market and whether Neonode’s products represent a substantial quantity of that market.

Nor has Neonode produced evidence showing a nexus between its sales figures and the features of the challenged claims as opposed to, for example, the unclaimed features of its zForce technology.

Thus, based on the evidence of record, we give little weight to Neonode’s evidence of commercial success.

### (3) *Industry Praise*

Neonode argues that after its demonstration of the N1 prototype at 2002 CeBit, “the N1 became famous in Stockholm and internationally.” PO Resp. 64 (citing Ex. 2015 ¶ 3). According to Neonode, there were “[n]umerous articles about the N1 phone, its novel almost button-less design, and particularly its gesture-based touch screen user interface,” and the device gained interest in the Stockholm tech and startup business community. *Id.* (citing Ex. 2015 ¶¶ 3, 8). According to Neonode, “[t]he excitement surrounding the phone was focused on its novel gesture-based user interface.” *Id.* (citing Ex. 2015 ¶ 3; Ex. 2016 ¶ 11). Neonode also cites a magazine article “referencing the phone’s zForce optical sensing technology” and ascribing the N1’s uniqueness to that technology. *Id.* at 65 (citing Ex. 2027).

Petitioner argues that this evidence of praise focuses on the unclaimed zForce technology, and in general on the gesture-based interface and the ability to operate the device with one hand. Pet. Reply 28 (citing Ex. 1055,



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15:4–18, 15:20–16:3 (deposition testimony of Per Bystedt); Ex. 1056, 36:4–9 (deposition testimony of Märkus Backlund); Ex. 2027, 2). Thus, Petitioner argues that there is no nexus between the evidence and the claimed invention. *Id.*

We agree with Petitioner that the evidence does not show a nexus between the industry praise and the features of the claimed invention. Rather, the praise was focused on unclaimed features such as Neonode’s separately patented zForce technology. Neonode has not produced any evidence, for example, of praise directed to the tap-absent state recited in limitation 1.c or the multi-step gesture recited in limitation 1.d. Therefore, we give Neonode’s evidence of industry praise little weight in our obviousness analysis.

#### (4) *Skepticism*

Neonode argues that when Märkus Backlund (the company’s CEO at the time) met with representatives of Nokia and Ericsson, “they were impressed with the swiping-gesture user interface [but] they were skeptical that consumers would want a keyboard-less mobile handset” because “the touch screen might get greasy from users’ fingers performing gestures, thereby obscuring the user interface” and “they thought that users were used to buttons to navigate mobile phones and would be hesitant to accept one without them.” PO Resp. 66 (citing Ex. 2016 ¶ 12).

Petitioner contends that “Neonode does not allege there was skepticism about the technology, only consumer desires.” Pet. Reply 29. For example, according to Petitioner, Neonode “makes no connection between such a handset and the ‘tap-present state’ with icons for ‘system functions’ and ‘tap-absent’ state of the challenged claims.” *Id.* at 28.

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In its Sur-reply, Neonode responds that “[i]t was the N1 interface about which the industry was skeptical, and that interface included the claimed features.” PO Sur-reply 26 (citing Ex. 1056, 36:15–23; Ex. 2016 ¶ 12; Ex. 2019 ¶¶ 5–11; Ex. 2027, 2–3).

We agree with Petitioner that Neonode’s evidence of skepticism is not directed at the features of the challenged claims, because that skepticism was focused on the general idea of a mobile handset operated through gestures rather than a keyboard. Whether the N1 interface included the claimed features is not the pertinent question—the question is whether that skepticism was directed to the claimed features. But the evidence does not suggest that the specific features of the challenged claims played any part in that skepticism. Thus, we give Neonode’s evidence of skepticism little weight.

#### (5) *Industry Respect*

Neonode contends that Samsung Mobile signed a license agreement in July 2005 that includes the application to which the ’993 patent claims priority. PO Resp. 67. According to Neonode, Samsung expressed excitement about “Neonode’s N1 gesture-based user interface.” *Id.* at 66–67 (citing Ex. 2015 ¶¶ 3, 8, 9; Ex. 2016 ¶ 11); *see also* PO Sur-reply 27 (arguing that the fact that Samsung took a license and expressed interest in the N1 and its gesture-based user interface is evidence that the technology of the ’993 patent was relevant to that interest).

But according to Petitioner, “[t]he agreement . . . has no relationship with the claimed functionality. In addition, neither the ’993 patent (nor its corresponding application) was in existence at the time of the agreement

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(2005). Therefore, there is no nexus to the purported ‘industry respect.’” Pet. Reply 29.

We agree with Petitioner that Neonode has not produced evidence that Samsung’s interest in the license focused on the features claimed in the ’993 patent, as opposed to unclaimed features such as the zForce technology. In particular, as Petitioner notes, at the time of the agreement in 2005, the challenged claims were not yet in existence, so Samsung could not have foretold the features of those claims. *See, e.g.*, Ex. 1003, 566 (preliminary amendment dated December 28, 2011, introducing claim 21 which ultimately issued as claim 1 after significant amendments).

Because Neonode has not produced evidence showing a nexus between the evidence of industry respect or licensing and the features of the challenged claims, we give the evidence little weight.

(f) Conclusion for Claim 1

Having considered the *Graham* factors, including Neonode’s evidence submitted to show objective indicia of non-obviousness, we determine that Petitioner has shown, by a preponderance of the evidence, that a person of ordinary skill in the art would have had reason to combine Hisatomi with Ren, and that the resulting combination teaches all the limitations of claim 1. We also find no nexus between claim 1 and the submitted evidence of commercial success, industry praise, skepticism, or industry respect. That evidence is entitled to little weight and is substantially outweighed by Petitioner’s evidence that claim 1 would have been obvious over the combination of Hisatomi and Ren.

Thus, we conclude that claim 1 is unpatentable under § 103 as obvious over the combination of Hisatomi and Ren.

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5. *Dependent Claims 2, 7, and 8*

Claims 2, 7, and 8 depend from claim 1 and recite further limitations. Ex. 1001, 6:66–7:2, 7:15–21. For the grounds based on Hisatomi and Ren, Neonode does not contest Petitioner’s specific arguments regarding claims 2, 3, 7, or 8 (*see* PO Resp. 33), and we find those arguments persuasive.

In particular, claim 2 recites “wherein any state transition elicited by a user gesture that begins at a location at which the otherwise-activatable graphic is provided, transitions to the tap-present state.” Ex. 1001, 6:66–7:2. Petitioner argues, and we agree, that Hisatomi discloses this limitation because “[t]ouching within a trigger area and then ‘dragging the input device . . . toward the center of the image display screen . . .’ causes the related function list in the pull-out menu to be displayed.” Pet. 49 (citing Ex. 1005 ¶¶ 18, 21, 39, 126). In addition, we find persuasive Petitioner’s argument that “each trigger area and its corresponding graphic is used for one purpose: to display the function list associated with the trigger area.” *Id.* (citing Ex. 1005 ¶¶ 18, 20, Figs. 10–12, 17, 28, 30).

Claim 7 recites “wherein the strip is less than a thumb’s width wide within the display screen.” Ex. 1001, 7:15–17. Petitioner argues, and we agree, that Hisatomi discloses that display trigger areas 11A–D are “determined by the shape of the pen tip.” Pet. 52 (quoting Ex. 1005 ¶ 18, Fig. 12). We also find persuasive Petitioner’s argument that a person of ordinary skill in the art would have recognized that the “shape of the pen tip” for Hisatomi’s handheld device would have been less than a thumb’s width wide. Pet. 53 (citing Ex. 1002 ¶ 159).

Claim 8 recites “wherein the multi-step user gesture comprises (i) the object touching the otherwise-activatable graphic, and (ii) the object gliding

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on the display screen away from and out of the strip.” Ex. 1001, 7:18–21. Petitioner argues, and we agree, that Hisatomi discloses this limitation because it discloses that “the coordinates of the trigger area are identified to a user using graphics displayed using different colors or patterns.” Pet. 53 (citing Ex. 1005 ¶ 27, Fig. 5). Thus, we agree that “[a] touch within the coordinates of a trigger area strip will also be a touch on its related ‘*otherwise-activatable graphic*.’” Pet. 54 (citing Ex. 1002 ¶ 161).

Thus, by a preponderance of the evidence, Petitioner has shown that claims 2, 7, and 8 are unpatentable as obvious over the combination of Hisatomi and Ren. Thus, we conclude that claims 2, 7, and 8 are unpatentable under § 103 on this basis.

#### 6. *Dependent claim 3*

Claim 3 recites “wherein the tap-present state does not display the tap-activatable icons within a window frame.” Ex. 1001, 7:3–5. Petitioner argues that Hisatomi discloses this limitation in at least its embodiment of Figure 28 where the icons in a function list appear after “peeling back” the corner of the image display, and are thus not surrounded by anything that could be construed as a window frame. Pet. 50–51 (citing Ex. 1005 ¶¶ 99, 101–103, 108, 246, Figs. 7, 28; Ex. 1002 ¶ 160).

In response, Neonode argues that “all of Hisatomi’s (touch)-activatable icons are depicted within a window frame.” PO Resp. 33. Neonode points to the border, shown in Figure 28 image D73 (reproduced above in Section III.C.1) “between the windowed content and the remainder of the GUI.” *Id.* at 34–35 (citing Ex. 2013 ¶¶ 113–114). Neonode does not consider relevant the fact that the exposed function list “may be expanded to

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cover the entire screen” because “the area enclosing the pull-out menus may be contracted at will by the user.” *Id.* at 34 (citing Ex. 2013 ¶ 113).

In its Reply, Petitioner points to Dr. Rosenberg’s description of a typical window frame. Pet. Reply 21–22 (citing Ex. 2013 ¶ 158). According to Dr. Rosenberg, “windows typically include a title bar containing at least tap-activatable icons to minimize, maximize and close the window.” Ex. 2013 ¶ 158. But according to Petitioner, there are “[n]o frame or ‘standard components’” in Hisatomi’s Figure 28. Pet. Reply 23.

Neonode responds that “Petitioners make no effort to show that ‘frame’ requires a visually distinct on-screen border along all four edges of a window.” PO Sur-reply 21. According to Neonode, “what is relevant is whether there is a border between the windowed content and the remainder of the GUI enabling a user to execute inputs and interact with outputs different from those that would be provided outside the windowed space.” *Id.* (citing Ex. 2013 ¶¶ 113–114).

We do not see any use of the phrase *window frame* within the ’993 patent other than in claim 3, and during prosecution, the applicant pointed only to Figure 3 as support for what is now claim 3. *See* Ex. 1003, 417. Thus, in the absence of any special meaning of the term *window frame* defined in the specification, we apply its ordinary and customary meaning. On this basis, we disagree with Neonode’s argument that a window frame could simply mean a graphical border between two parts of a screen as in Hisatomi’s Figure 28. Moreover, in Hisatomi’s screen D73, the border does not actually enclose the selectable icons that are revealed upon swiping away from the corner. If anything would be “within” a window in this figure, it

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would be the home-screen image that this continuous border encloses on all sides, not the selectable icons that are outside this border.

Neonode also contends that its “showing of nexus as to claim 3 . . . is not contested.” PO Sur-reply 22 (citing Ex. 2019 ¶ 8). But this evidence from Mr. Shain’s declaration only states his testimony that “[w]hen the N1 and N2 phones displayed tap-activatable icons, they were presented full-screen, not within a window.” Ex. 2019 ¶ 8. Neonode has not otherwise presented evidence showing a nexus between this particular feature and the alleged commercial success, industry praise, skepticism, or industry respect, or even mentioning this feature in the context of its evidence. *See supra* Section III.C.4(e).

Thus, we find Petitioner’s arguments persuasive, by a preponderance of the evidence, that claim 3 would have been obvious over the combination of Hisatomi and Ren. Thus, we conclude that claim 3 is unpatentable under § 103 on this basis.

7. *Claim 4 (Ground 1B: Obviousness over Hisatomi, Ren, and Allard-656)*

Claim 4 recites “wherein the plurality of pre-designated system functions comprises a help function.” Ex. 1001, 7:6–8.

Petitioner alleges that claim 4 is obvious over the combination of Hisatomi, Ren, and Allard-656. *See* Pet. 54–57. Allard-656 is a U.S. Patent disclosing “[a] personal communicator that combines a cellular phone, a data and fax modem, and a data processing system, into a mobile, compact, lightweight, battery operated, handheld device having a variety of data processing and communication functions” such as a calendar, an address book, a note pad, and a communication device.” Ex. 1007, 1:41–52. Part of

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its user interface includes a help icon that activates a help screen. *See id.* at 6:17, 6:30–37, Figs. 4A–B.

Relying on Dr. Bederson’s testimony, Petitioner alleges that Allard-656 discloses the use of a help function in a handheld device, and that “[i]t would have been obvious to a [person of ordinary skill in the art] to configure the Hisatomi device such that one or more of the icons in the function lists corresponded to a help function, as disclosed in Allard-656,” motivated by “[t]he obvious need for user assistance and its well-known prevalence in user interfaces” at the time of the claimed invention. Pet. 55–57 (citing Ex. 1005 ¶ 223; Ex. 1009, 5:51–55, 6:12–38, Figs. 4A, 4B; Ex. 1002 ¶¶ 167–171).

Neonode argues that Allard-656 is not analogous art and that there would have been no motivation to combine it with Hisatomi. *See* PO Resp. 35–41. First, Neonode argues that Allard-656 is not within the same field of endeavor as the ’993 patent because “[t]he field of endeavor of the ’993 Patent is that of user interfaces for handheld mobile computer units,” whereas the field of endeavor of Allard-656 “is that of mechanical engineering solutions.” *Id.* at 36–38 (citing Ex. 1001, code (57), 1:14–18, 1:33–36, 1:55–2:4, 2:8–10, 3:19–24, 3:57–58, 6:50–53; Figs. 1–14; Ex. 2013 ¶ 123).

Neonode also argues that Allard-656 is not reasonably pertinent to the problem addressed by the ’993 patent because “[t]he problem the ’993 Patent sought to solve was providing an easily navigable user interface for a small handheld computer unit,” whereas Allard-656 sought to solve the problem of “how to adjust an LCD display’s contrast level when the user interface is either opaque or transparent and therefore not usable by the



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user.” PO Resp. 38–39 (citing Ex. 1001, 1:38–39, 1:44–53, 1:59–65; Ex. 2013 ¶¶ 124–128).

We disagree with Neonode’s characterization of Allard-656’s field of endeavor and the relevant problem it sought to solve. As Petitioner correctly notes, Allard-656 describes one of the objects of its invention as “to provide a personal communicator, including a cellular phone and a touchscreen display, with . . . a simulated HELP screen control button.” Ex. 1007, 2:46–51; Pet. Reply 24. Allard-656 also discusses several user interface features as part of its disclosure. *See* Ex. 1007, 5:41–6:21, Figs. 4A–B.

Petitioner cites Allard-656 for the limited purpose of teaching that one of the pre-designated system functions can be a help function. *See* Pet. 54–57. We agree with Petitioner that Allard-656 provides an analogous teaching in that regard, both because the reference is within the field of user interfaces for handheld mobile computer units and because it teaches a solution to the problem of providing an icon corresponding to a system help function.

Next, Neonode argues that there would have been no motivation to combine Allard-656 with Hisatomi because Hisatomi already discloses a “partial cut-out help” function “to make it easy to check the contents of the pull-out menu,” which does not involve an associated help icon. PO Resp. 40 (citing Ex. 1005 ¶¶ 222–240, Figs. 55, 57). According to Neonode, a person of ordinary skill in the art “would have seen no deficiency in Hisatomi to be remedied by the addition of a ‘Help’ icon, and adding such an icon to each pull-out menu as Petitioners suggest would have done nothing but layer another step onto the process for executing the help function.” *Id.* at 41 (citing Ex. 2013 ¶¶ 131–133).

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Petitioner responds that the “partial cut-out help” function simply “provides a small preview of the functions in the corresponding menu to assist the user in recalling which of the pull-out menus contain which function.” Pet. Reply 24 (citing Ex. 1005 ¶¶ 222–240). Thus, according to Petitioner, “[t]his is not the typical ‘help’ functionality a [person of ordinary skill in the art] would expect to be included with function buttons *within* the menus explaining the various functions within the menu.” *Id.* at 25 (citing Ex. 1007, 6:30–37). Petitioner also contends that an ordinarily skilled artisan “would not have been discouraged from implementing an Allard-type HELP icon” because “the two features provided different functionality.” *Id.* (citing Ex. 1051 ¶ 82).

We find Petitioner’s arguments persuasive because we agree that Hisatomi’s “help” function solves a different problem than the help icon that Allard-656 teaches, and a person of ordinary skill in the art would have had reason to use both types of help functions in Hisatomi’s mobile device. *Compare* Ex. 1005 ¶¶ 222–240, *with* Ex. 1007, 6:30–37.

Based on the evidence as a whole, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 4 would have been obvious over the combination of Hisatomi, Ren, and Allard-656. Thus, we conclude that claim 4 is unpatentable under § 103 on this basis.

8. *Claim 5 (Ground 1C: Obviousness Over Hisatomi, Ren, and Tanaka)*

Claim 5 recites “wherein the plurality of pre-designated system functions comprises a clock function.” Ex. 1001, 7:9–11.

Petitioner alleges that claim 5 is obvious over the combination of Hisatomi, Ren, and Tanaka. *See* Pet. 58–60. Tanaka is a U.S. patent

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describing “an information processing apparatus [for] allowing the user to employ any one of the two icon-selecting methods, ‘check’ and ‘drag[]’ to control window positions as desired on the screen.” Ex. 1008, 2:34–38. Its user interface includes a selectable icon for a “world clock” function. *See id.* at Fig. 5.

Petitioner argues that it would have been obvious to a person of ordinary skill in the art “to configure the Hisatomi device to include an icon representing a clock function as disclosed in Tanaka” because “the ability to identify the current time as well as the passage of time without viewing a separate device was desirable across the variety of devices in which Hisatomi teaches its device could be implemented.” Pet. 58–59 (citing Ex. 1005 ¶ 243; Ex. 1008,<sup>16</sup> 4:13–21, Fig. 5; Ex. 1002 ¶¶ 174–175). Petitioner also argues that “Hisatomi describes the desire to not obscure the image on the editing screen, as would have been required to always display a clock.” Pet. 58 (citing Ex. 1005 ¶ 5).

Neonode argues that “requiring a user to activate an icon in order to see the time would have been an inferior solution to simply including a persistent clock display, which is why that was the typical solution in 2002 (and today) for notebook-sized devices such as Hisatomi.” PO Resp. 42 (citing Ex. 2013 ¶ 136); *see also id.* at 42–43 (citing Ex. 1002 ¶ 173; Ex. 1005 ¶ 243; Ex. 2013 ¶ 137) (arguing that a persistent clock display would not necessarily require obscuring the displayed image, and that other devices, including camera devices, typically use a persistent time display).

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<sup>16</sup> Petitioner appears to have incorrectly identified Tanaka as Exhibit 1010 rather than its actual exhibit number Exhibit 1008.

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Even if the use of a persistent clock was the most common choice at the time of the claimed invention, Petitioner has persuasively shown that Tanaka teaches an alternative to a persistent clock in the form of a clock function that is selectable with an icon. Neonode has not pointed to anything in the prior art criticizing, discrediting, or otherwise discouraging investigation into the use of an icon-activated clock function as Tanaka teaches. *See DePuy Spine*, 567 F.3d at 1327 (Fed. Cir. 2009). Therefore, we find that a person of ordinary skill in the art would have had reason to add a clock function corresponding to one of Hisatomi's icons.

Based on the evidence as a whole, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 5 would have been obvious over the combination of Hisatomi, Ren, and Tanaka. Thus, we conclude that claim 5 is unpatentable under § 103 on this basis.

9. *Claim 6 (Ground 1D: Obviousness over Hisatomi, Ren, and Kodama)*

Claim 6 recites “wherein the plurality of pre-designated system functions comprises an alarm function.” Ex. 1001, 7:12–14.

Petitioner alleges that claim 6 is obvious over the combination of Hisatomi, Ren, and Kodama. *See* Pet. 60–63. Kodama is a U.S. patent application describing “a portable information gather apparatus which can function to manage captured information on a page basis, and an information management method by the apparatus.” Ex. 1016, 1:11–14. Kodama displays “stamps” (icons) associated with various selectable functions, and one of these is an “alarm stamp,” which allows the user to set an alarm. *See Id.* at 5:35–43, 8:21–9:4, Fig. 4.

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Petitioner argues that Kodama discloses a portable, touchscreen device with an alarm function, and that it would have been obvious “to include an alarm function, such as disclosed by Kodama, as one of the icons disclosed by Hisatomi” because it would have been “desirable to have an alarm that a user could set to manage the amount of time the user spends on editing function. Alarm functions were basic functions well-known to a [person of ordinary skill in the art] and could have been implemented with predictable results.” Pet. 61–63 (citing Ex. 1016, 1:8–28, 8:54–56, 9:1–4, Fig. 4; Ex. 1002 ¶¶ 179–182).

Neonode characterizes Petitioner’s argument as “an argument that it would have been obvious to try.” PO Resp. 44. We disagree with this characterization because Kodama specifically discloses an icon for an alarm function. *See* Ex. 1016, Fig. 4 (“alarm stamp” 101). And Petitioner’s obviousness argument is not simply that it would have been obvious to try to modify Hisatomi, but that it would have been obvious to modify Hisatomi by designating one of Hisatomi’s icons as an alarm icon as Kodama teaches. *See* Pet. 61–63.

Neonode also contends that Petitioner’s alleged motivation to combine “is pure hindsight bias, driven by our modern experience with smartphones.” PO Resp. 45 (citing Ex. 2013 ¶ 145). Neonode asserts that, “[i]n 2002, prior to the advent of smartphones that incorporated ‘lifestyle’ functionalities such as photo editing into a mobile communications device, neither a [person of ordinary skill in the art] nor the average consumer would have considered it beneficial to package an alarm with an image editing device.” *Id.* (citing Ex. 2013 ¶ 145). Thus, according to Neonode, “the lack

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of an alarm on such a device would not have been considered a ‘deficiency’ to be remedied.” *Id.* (citing Ex. 2013 ¶ 145)

We disagree that Petitioner’s argument is an improper hindsight reconstruction because the asserted motivation “takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure.” *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971). That Kodama teaches an alarm icon on a portable device prior to 2002 undermines Dr. Rosenberg’s testimony that a person of ordinary skill in the art would not have considered such an icon to be beneficial in the relevant time frame. *See* Ex. 2013 ¶ 145. Thus, we find Dr. Bederson’s contrary testimony to be more credible on this point. *See* Ex. 1002 ¶¶ 181–182.

Based on the evidence as a whole, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 6 would have been obvious over the combination of Hisatomi, Ren, and Kodama. Thus, we conclude that claim 6 is unpatentable under § 103 on this basis.

#### D. OBVIOUSNESS GROUNDS BASED ON HANSEN AND GILLESPIE (GROUNDS 2A–D)

In addition to the above grounds, Petitioner asserts that claims 1–3, 7, and 8 are unpatentable under § 103(a) as obvious over the combination of Hansen and Gillespie, and for claims 4, 5, and 6, in further combination with Allard-656, Tanaka, or Kodama, respectively (Grounds 2A–D). Pet. 1–2, 63–82.

Our conclusion above as to Grounds 1A–D is fully dispositive as to all challenged claims. Thus, we do not consider Grounds 2A–D in our decision.

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*See Boston Scientific Scimed, Inc. v. Cook Group Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (holding that once a petitioner has prevailed on all its challenged claims, “the Board need not address issues that are not necessary to the resolution of the proceeding”); *Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (once a dispositive issue is decided, there is no need to decide other potentially dispositive issues).

#### IV. PETITIONER’S MOTION TO EXCLUDE EVIDENCE (PAPER 60)

Petitioner moves to exclude paragraphs 3, 5, 9, and 11 of Mr. Bystedt’s declaration (Ex. 2015) and paragraphs 4 and 12 of Mr. Bäcklund’s declaration (Ex. 2016). Paper 60. For the reasons below, this motion is *denied*.

As to Mr. Bystedt’s declaration, Petitioner contends that paragraphs 3 and 5 of the declaration offer improper opinions on the ultimate issues of novelty and conception by describing Neonode’s N1 device as “innovative” and “novel” without providing any associated analysis, and stating that Neonode “conceived of the gesture-based user interface.” Paper 60, 3–4 (quoting Ex. 2015 ¶¶ 3, 5). Petitioner also contends that Mr. Bystedt offered an improper argument that the device “enjoyed substantial commercial success” without performing any analysis, submitting corroborating evidence, or being qualified as an expert. *Id.* at 4–5 (citing Ex. 2015 ¶ 11; Ex. 1055, 10:20–11:1, 11:7–14, 18:2–7, 18:20–19:3). Petitioner also argues that statements in paragraphs 5 and 9, in which Mr. Bystedt recounts statements made by third parties relevant to conception of the invention and industry praise, are impermissible hearsay. *See id.* at 5–7.

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As to Mr. Bäcklund's declaration, Petitioner argues that we should exclude paragraphs 4 and 12 of the declaration as inadmissible hearsay because he conveys statements by third parties relating to the issues of conception and industry skepticism. Paper 60, 7–8 (citing Ex. 1056, 19:15–23, 22:14–23; Ex. 2016 ¶¶ 4, 12).

Neonode responds that the statements by Messrs. Bystedt and Bäcklund are not proffered as expert testimony and are not offered for the truth of the matters asserted. *See generally* Paper 61.

We have considered the above testimony as part of this decision. But like the other evidence we discuss above, this evidence does not, even if admissible and true, establish a nexus between the challenged claims and Neonode's asserted objected indicia and obviousness, or provide the evidence necessary to show commercial success. *See supra* Section III.C.4(e). Nor does this testimony establish or corroborate that Mr. Goertz conceived of the invention before Hisatomi's publication date, since the referenced communications were not contemporary with the alleged date of conception and do not address the specific limitations of the challenged claims. *See supra* Section III.C.3.

Thus, in light of our findings in this decision, we deny Petitioner's Motion to Exclude Evidence.

#### V. NEONODE'S UNOPPOSED MOTION TO SUBMIT SUPPLEMENTAL INFORMATION (PAPER 63)

Neonode moves (Paper 63) to submit supplemental information under 37 C.F.R. § 42.123(b) consisting of four pages from a deposition of Petitioner's expert Dr. Bederson taken in co-pending IPR2021-00144 on



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February 28, 2022 (Ex. 2029). Although Petitioner states that it takes no position on the motion, it has submitted a response arguing that the evidence is not relevant to the issues of the case. Paper 66.

For the reasons below, this motion is *granted*.

During cross-examination, Neonode’s counsel asked Dr. Bederson whether a gesture equivalent to Ren’s “a→b→c→a” gesture would mean a “tap,” and he responded that he had not analyzed that question, but that “it probably doesn’t.” Ex. 2029, 164:24; Paper 63, 1–3. Neonode argues that this admission contradicts Petitioner’s apparent position that Ren’s “a→b→c→a” gesture would constitute a “tap.” Paper 63, 3. Because of the timing of the deposition, Neonode contends that this testimony could not have been submitted earlier, and that Neonode acted diligently to notify the Board of the matter within a few days of the deposition.

Although Petitioner does not oppose admission of the testimony, it argues that the testimony is irrelevant because (1) neither Petitioner nor Dr. Bederson rely on Ren’s “a→b→c→a” strategy as a “tap,” and (2) it is undisputed that Ren’s “a→c→a” strategy is a “tap,” and so the Board does not need to determine whether “a→b→c→a” is also a “tap.” Paper 66, 1.

Because the motion is unopposed, the evidence could not have previously been submitted in this case, and submission of the evidence would be interest of justice, we grant Neonode’s motion to submit Exhibit 2029 as supplemental information under 37 C.F.R. § 42.123(b). We discuss the import of this evidence above, in the context of our construction of the term *tap-activatable*. See *supra* Section III.B.2.

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## VI. NEONODE’S UNOPPOSED MOTION TO SEAL (PAPER 65)

Neonode moves to seal a portion of its demonstrative exhibits (Ex. 2030) on the ground that this portion refers to a license agreement (Ex. 2025) that is protected under seal by a previous order (Paper 53) under the Protective Order in force in this proceeding (Papers 52, 50 App’x A). Neonode has submitted a redacted version of its demonstrative exhibits as Exhibit 2031, which omits pages 67 and 68.

For a motion to seal confidential information, the moving party has the burden to show that there is good cause for the request to seal. *See* 37 C.F.R. §§ 42.20(c), 42.54(a). A party can show good cause by (1) providing a sufficient explanation as to why the information sought to be sealed is confidential and (2) showing that, on balance, the harm to a party by disclosure of the information, as well as the need of either party to rely specifically on the information at issue, outweighs the public interest in maintaining a complete and understandable record. *See Argentum Pharms. LLC v. Alcon Research, Ltd.*, IPR2017-01053, Paper 27 at 3–4 (PTAB Jan. 19, 2018) (informative) (citing *Corning Optical Commc’ns RF, LLC, v. PPC Broadband, Inc.*, IPR2014- 00440, Paper 46, 2; Paper 47, 3 (PTAB April 6 and 14, 2015)).

Because the redacted portion of Neonode’s demonstratives relate to material that we have previously placed under seal, we find that Neonode has shown good cause for the Motion to Seal, and it is *granted* for the reasons given in our previous Order (Paper 53).

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## VII. CONCLUSION<sup>17</sup>

For the reasons above, Petitioner has shown by a preponderance of the evidence that claims 1–8 of the '993 patent are unpatentable under § 103(a) as obvious over Hisatomi and Ren (claims 1–3, 7, 8), and for claims 4–6, Allard-656, Tanaka, and Kodama, respectively. We do not reach the question of whether any claims are unpatentable on the remaining grounds.

## VIII. ORDER

In consideration of the foregoing, it is  
ORDERED that claims 1–8 of the '993 patent are unpatentable;  
FURTHER ORDERED that Petitioner's Motion to Exclude Evidence (Paper 60) is *denied*;  
FURTHER ORDERED that Patent Owner's Motion to Submit Supplemental Information (Paper 63) is *granted*;  
FURTHER ORDERED that Patent Owner's Motion to Seal (Paper 65) is *granted*;  
FURTHER ORDERED that Exhibit 2030 is sealed in its entirety;  
FURTHER ORDERED that the parties may, within 10 days of the entry of this decision, file a joint motion to seal this decision, which must

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<sup>17</sup> Should Neonode wish to pursue amendment of claims in a reissue or reexamination proceeding after this decision, we draw Neonode's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Neonode chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Neonode of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

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include, as an exhibit, a proposed redacted public version of this decision that will be open to the public, and in the absence of such motion, this decision will be made open to the public; and

FURTHER ORDERED that parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

<b>Claim(s)</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Claims Shown Unpatentable</b>	<b>Claims Not Shown Unpatentable</b>
1–3, 7, 8	103(a)	Hisatomi, Ren	1–3, 7, 8	
4	103(a)	Hisatomi, Ren, Allard-656	4	
5	103(a)	Hisatomi, Ren, Tanaka	5	
6	103(a)	Hisatomi, Ren, Kodama	6	
1–3, 7, 8	103(a) <sup>18</sup>	Hansen, Gillespie		
4	103(a)	Hansen, Gillespie, Allard-656		
5	103(a)	Hansen, Gillespie, Tanaka		
6	103(a)	Hansen, Gillespie, Kodama		
<b>Overall Outcome</b>			1–8	

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<sup>18</sup> As explained above, we do not reach Grounds 2A–D based on Hansen and Gillespie because we conclude that all challenged claims are unpatentable under Grounds 1A–D. *See supra* Section III.D.

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For PETITIONER:

Walter Renner  
David Holt  
FISH & RICHARDSON P.C.  
axf-ptab@fr.com  
holt2@fr.com

Tiffany Miller  
James Heintz  
DLA PIPER LLP  
tiffany.miller@dlapiper.com  
jim.heintz@dlapiper.com

For PATENT OWNER:

Robert Asher  
Bruce Sunstein  
Timothy M. Murphy  
SUNSTEIN LLP  
rasher@sunsteinlaw.com  
bsunstein@sunsteinlaw.com  
tmurphy@sunsteinlaw.com

Philip J. Graves  
HAGENS BERMAN SOBOL SHAPIRO LLP  
philipg@hbsslaw.com